



|  |
|--|
| DESIGN REVIEW  |
| Permit info: <u>DSRFY2026-0009</u><br>Application Date: <u>2/2/2026</u> Rec'd by: _____<br>FOR OFFICE USE ONLY |

**6015 Glenwood Street ▪ Garden City, ID 83714 ▪ 208.472.2921**  
 ▪ [www.gardencityidaho.org](http://www.gardencityidaho.org) ▪ [building@gardencityidaho.org](mailto:building@gardencityidaho.org)

| APPLICANT   | PROPERTY OWNER  |
|---|---|
| <b>Name:</b> DeAnn Sevey, City of Boise   | <b>Name:</b> City of Garden City  |
| <b>Company:</b> City of Boise   | <b>Company:</b>   |
| <b>Address:</b> 150 N. Capitol Blvd., P.O. Box 500                                | <b>Address:</b> 6015 N. Glenwood St.  |
| <b>City:</b> Boise  | <b>City:</b> Garden City  |
| <b>State:</b> ID <b>Zip:</b> 83701  | <b>State:</b> ID <b>Zip:</b> 83714  |
| <b>Tel.:</b> (208) 608-7802   | <b>Tel.:</b> (208) 472-2949   |
| <b>E-mail:</b> <a href="mailto:dsevey@cityofboise.org">dsevey@cityofboise.org</a> | <b>E-mail:</b> <a href="mailto:cschmidt@gardencity.org">cschmidt@gardencity.org</a> |

**PROPERTY AND DESIGN INFORMATION**

This application is a request to:       Construct New     Addition     Subdivision

**Site Address:** 3858 N. Reed St.

|   |                    |   |
|---|--------------------|---|
| <b>Subdivision Name:</b>                                | <b>Lot:</b>        | <b>Block:</b>   |
| <b>Tax Parcel Number:</b> #0310                         | <b>Zoning:</b>     | <b>Total Acres:</b> <1  |
| <b>Proposed Use:</b> Odor control building to treat air | <b>Floodplain:</b> | <input checked="" type="radio"/> Yes <input type="radio"/> No |

**OBJECTIVES 8-4C**

1. How does the design of the structure advance an urban form through its relationship to the street, the pedestrian and adjacent properties?
2. How does the design maximize the opportunities for safe and comfortable pedestrian accessibility and minimize the effects of parking and vehicular circulation?
3. What are the building materials?
4. What are the existing notable site features and how does the design respect them?
5. Is the building consistent with the adopted streetscape?

**Bike and Pedestrian:** How have bike and pedestrian circulation been arranged with respect to adjacent facilities, internal circulation, and potential vehicular conflicts? Is there sidewalk? How far away are the nearest transit facilities and is there safe and comfortable access to the facilities?

**Parking and parking lot standards:** Is there a tree provided for every 5 parking stalls? Is there bike parking provided? Is the parking adequately screened from adjacent uses and the street? Is there any stall that is located more than 100' from a shade tree?

**Community Interaction:** How does the development incorporate into the envisioned neighborhood? How does the proposed project support a compact development pattern that enables intensification of development and changes over time? How does the proposed design support a development

pattern in nodes rather than strip commercial along arterial corridors? How does the project promote a place where people want to be? If not exempt 8-4G sustainability, how many points will the project have, as totaled from the sustainability checklist?

**Landscaping:** Is there more than 5% of the site dedicated to landscaping? Is there one class II or III tree provided for every 50' of street frontage? Will any trees be removed from the site? What kind of irrigation will be provided? Is the landscaping compatible with local climatic conditions?

**Building Design:** How does the building provide visual interest and positively contribute to the overall urban fabric of the community? What is the Floor to Area ratio? Is there relief incorporated into facades and or rooflines greater than 50'? What are the setbacks? How are the outdoor service and equipment areas screened? If there are multiple structures, are the setbacks consistent? Are there any "green building" concepts are incorporated into the project?

I consent to this application and hereby certify that information contained on this application and in the accompanying materials is correct to the best of my knowledge. I agree to be responsible for all application materials, fees and application correspondence with the City. I will hold harmless and indemnify the City of Garden City from any and all claims and/or causes of action from or an outcome of the issuance of a permit from the City.

*Brad Waters*      1/28/26      *Debra Jolley*      1/27/2026  
 Signature of the Applicant      (date)      Signature of the Owner      (date)

**APPLICATION INFORMATION REQUIRED**

**Note:**

**AN ELECTRONIC COPY OF THE ENTIRE APPLICATION SUBMITTAL REQUIRED**  
**INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED UNDER ANY CIRCUMSTANCES**

**ONE (1) HARD COPY OF EACH CHECKLIST ITEM REQUIRED:**

- |  |   |
|--|---|
| <input type="checkbox"/> Compliance Statement and Statement of Intent                            | <input type="checkbox"/> Sustainability Checklist <i>*if applicable</i> |
| <input type="checkbox"/> Neighborhood Map  | <input type="checkbox"/> Trash Disposal Plan                            |
| <input checked="" type="checkbox"/> Site Plan  |   |
| <input type="checkbox"/> Landscape Plan  |   |
| <input checked="" type="checkbox"/> Schematic Drawing  |   |
| <input type="checkbox"/> Lighting Plan   |   |
| <input type="checkbox"/> Topographic Survey  |   |
| <input type="checkbox"/> Grading Plan  |   |
| <input type="checkbox"/> Will Serve Letter <b>**If required, must submit a Fire Flow Request</b> |   |
| <input type="checkbox"/> Ada County Approved Addresses   |   |
| <input type="checkbox"/> Waiver Request of Application Materials                                 |   |
| <input type="checkbox"/> Affidavit of Legal Interest   |   |

N/A



# PLEASE CHECK THE FOLLOWING:

## INFORMATION REQUIRED ON COMPLIANCE STATEMENT AND STATEMENT OF INTENT:

- Statement explaining how the proposed structure(s) is compliant with the standards of review for the proposed application
- Purpose, scope, and intent of project
- Information concerning noxious uses, noise, vibration, and any other aspects of the use or structure that may impact adjacent properties or the surrounding community

## INFORMATION REQUIRED ON NEIGHBORHOOD MAP:

- N/A
- 8 ½" x 11" size minimum
  - Location of contiguous lots and lot(s) immediately across from any public or private street, building envelopes and/or existing buildings and structures at a scale not less than one inch equals one hundred feet (1" = 100')
  - Impact of the proposed siting on existing buildings, structures, and/or building envelopes

## INFORMATION REQUIRED ON SITE PLAN:

- N/A
- Scale not less than 1" = 20', legend, and north arrow.
  - Property boundary, dimensions, setbacks and parcel size.
  - Location of the proposed building, improvement, sign, fence or other structure, and the relationship to the platted building envelope and/or building zone
  - Building envelope dimensions with the center of the envelope location established in relation to the property lines
  - Adjacent public and private street right of way lines
  - Total square footage of all proposed structures calculated for each floor. If the application is for an addition or alteration to an existing building or structure, then the new or altered portions shall be clearly indicated on the plans and the square footage of new or altered portion and the existing building shall be included in the calculations
  - For uses classified as drive-through, the site plan shall demonstrate safe pedestrian and vehicular access and circulation on the site and between adjacent properties as required in Section 8-2C-13 of Title 8.
  - The site plan shall demonstrate safe vehicular access as required in 8-4E-4
  - Driveways, access to public streets, parking with stalls, loading areas.
  - Sidewalks, bike and pedestrian paths.
  - Berms, walls, screens, hedges and fencing.
  - Location and width of easements, canals, ditches, drainage areas.
  - Location, dimensions and type of signs.
  - Trash storage and mechanical equipment and screening.
  - Parking including noted number of regular, handicap and bike parking as well as dimensions of spaces and drive aisles depicted on plan
  - Log depicting square footage of impervious surface, building and landscaping
  - Location and height of fences and exterior walls
  - Location and dimensions of outdoor storage areas
  - Location of utilities and outdoor serviced equipment and areas
  - Location of any proposed public art, exterior site furniture, exterior lighting, signage

**INFORMATION REQUIRED ON LANDSCAPE PLAN:** No changes to existing landscaping are planned

- Scale the same as the site plan.
- Type, size, and location of all existing and proposed plants, trees, and other landscape materials.
- Size, location and species of existing vegetation labeled to remain or to be removed.
- All areas to be covered by automatic irrigation, including location of proposed irrigation lines.
- Cross section through any special features, berms, and retaining walls.
- A plant list of the variety, size, and quantity of all proposed vegetation
- Log of square footage of landscaping materials corresponding to location
- Locations and dimensions of open space and proposed storm water systems

**INFORMATION REQUIRED ON SCHEMATIC DRAWINGS (ELEVATIONS):**

- Scale not less than 1/8 inch = 1 foot (1/8" = 1')
- Floor plans; elevations, including recorded grade lines; or cross sections that describe the highest points of all structures and/or buildings, showing relationship to recorded grade existing prior to any site preparation, grading or filing
- Decks, retaining walls, architectural screen walls, solid walls, and other existing and proposed landscape features shall be shown in elevations and sections with the details to show the completed appearance of those structures
- Overall dimensions of all proposed structures
- Specifications on exterior surface materials and color
- Sample materials (as determined by the staff)

**INFORMATION REQUIRED ON LIGHTING PLAN:**

- 11" x 17" size minimum
- Location, type, height, lumen output, and luminance levels of all exterior lighting
- Refer to Garden City Code 8-4A-6 for outdoor lighting requirements
- Location of municipal street lights

**INFORMATION FOR TOPOGRAPHIC SURVEY:** No changes to existing topography are planned

- The topographic map is a map of the application site and adjoining parcels prepared by an engineer and/or land surveyor, and at a scale of not less than one inch (1") to twenty feet (20').
- If the site has been known to have been altered over time, then the applicant shall provide evidence of the natural topography of the site

**INFORMATION REQUIRED ON GRADING PLAN:** No changes to existing topography are planned

- 11" x 17" size minimum
- Scale not less than one inch equals twenty feet (1" = 20')
- Two foot (2') contours for the entire proposal site
- One foot (1') contours for details, including all planimetric features
- Existing site features, including existing structures, trees, streams, canals, and floodplain hazard areas
- Existing easement and utility locations
- Approximate limiting dimensions, elevations, and finish contours to be achieved by the contemplated grading within the project, showing all proposed cut and fill slopes, drainage channels, and related construction; and finish and spot grade elevations for all wall and fence construction, and paved and recreational surface
- Slope and soil stabilization and re-vegetation plan, including identification of areas where existing or natural vegetation will be removed and the proposed method of re-vegetating. Show all areas of disturbance and construction fencing location; re-vegetation is required for all disturbed areas
- Proposed storm water systems

**INFORMATION REQUIRED MASTER SIGN PLAN:**

*\*Required for developments of two or more buildings:*

- Location, elevations, and materials of proposed signage

**INFORMATION REQUIRED FOR IRRIGATION/DITCH INFORMATION FORM:**

*\*Required if irrigation canal/irrigation ditch runs through property or along property lines:*

- Letter from company indicating approval

**INFORMATION REQUIRED FOR WAIVER REQUEST OF APPLICATION MATERIALS:**

- Statement must include a list of the application materials to be waived and an explanation for the request.

**INFORMATION REQUIRED FOR TRASH DISPOSAL PLAN:**

- Site photo
- Location, configuration, dimensions, type of containers, and number of containers
- Refer to Republic Services Solid Waste Design Standards.



**HELPING EACH OTHER**  
CREATE BETTER COMMUNITIES



THE  
LANGDON  
GROUP



GATEWAY  
MAPPING  
INC.

J-U-B FAMILY OF COMPANIES

January 30, 2025

City of Garden City  
Development Services  
6015 Glenwood Street  
Garden City, ID 83714

RE: City of Boise SBI Odor Mitigation Project in Heron Park

Dear Sir or Madam,

On behalf of the City of Boise, we are submitting this application package including the following applications and forms:

1. Public Works Permit Application
2. Floodplain/Floodway Development form
3. Design Review form

This cover letter contains additional information, clarifications and explanations to these submitted documents. Also attached are design plans for the proposed facility.

### **Background and Purpose**

Boise City owns and operates a 36-inch diameter trunk sewer (named the "SBI") that runs along the south side of the Boise River from approximately W. 34<sup>th</sup> Street to their West Boise Water Recycle Facility. Boise City Public Works and, purportedly, Garden City have received odor complaints from the public, particularly in the portion from W. 34<sup>th</sup> Street to Veterans Memorial Parkway. Boise City has previously conducted pilot tests to determine an odor mitigation strategy. This proposed project seeks to address this odor problem.

### **Odor Mitigation Strategy**

The proposed project will use an ozone generation process (see attached equipment brochure) and injection into an SBI manhole in Heron Park. Odiferous air will be drawn to this specific manhole by a fan located in a relatively small enclosure near the existing restroom facility. The technology was pilot tested by Boise City Public Works (PW) in the summer of 2023 with favorable results.



J-U-B ENGINEERS, INC.



THE LANGDON GROUP



GATEWAY MAPPING INC.

J-U-B FAMILY OF COMPANIES

The facility requires a small, enclosed building to house the fan and the ozone generator. Boise City PW and J-U-B Engineers met with Colin Schmidt in the fall of 2023 to discuss this project. We subsequently provided a general project description to Mr. Schmidt, to which he provided favorable feedback.

### Public Works Permit

List and explain exceptions or portions not filled out or why it's not applicable.

- Contractor information: the project will not be bid until permitting is in place. Therefore, there is no contractor information at this time.
- Responsible person: The future Contractor will be required to provide a responsible person in charge of the erosion and sediment control plan that they prepare.
- Flood plain permit number: we don't have this number yet because we are submitting both permits together.
- General Erosion/ Annual Erosion number: The future Contractor will be required to provide an erosion and sediment control plan .
- Checklist: Boise City will be requesting an easement from the City upon application approval of the project. This would be tied to an affidavit of legal interest.
- Storm drainage requirements: insignificant stormwater drainage will be produced by the proposed project. The small structure's roof will be pitched such that any precipitation will runoff to grassy park area.
- Site and Landscaping requirements: parking stalls and trash enclosures are not necessary in this project.
- Utility requirements: The project will require a new electrical service provided by Idaho Power Company and a new 3/4-inch water service from Garden City.

### Floodplain Permit – Minor Work

The proposed project does not fit any of the below categories and, consequently, is not included.

- Proposed project is an accessory structure, but it is not valued less than \$7,500.
- Proposed project is not a recreational vehicle.
- Proposed project is not a fence.

### Floodplain/Floodway Development

The proposed project will have its finished floor elevation the same as the City's existing restroom facility. No changes to the existing park site grading are proposed.

### General Erosion and Sediment Control Permit Application

- Erosion Annual Permit Number: this will be required to be completed by the contractor that the City of Boise awards the construction contract to. Consequently, it can not be completed at this time.

## Design Review

The objectives 8-4C are either non applicable to this specific project or they are being met.

List and explain exceptions or portions not filled out:

- Neighborhood Map: the structure will not affect any existing buildings and structures in the area.
- Landscape plan: the proposed project will not change any landscape in the area. However, one tree that appears to be dying will be removed to accommodate the air piping from the SBI to the proposed blower structure. No other new landscaping features are proposed.
- Lighting plan: the proposed project will two exterior downlights on the west and east side of the structure. See attached plan Sheet E-101 and light fixture brochure.
- Topographic survey: not needed for this simple of a project.
- Grading plan: no changes will be made to the existing grading in the park.

## Summary

This is a unique project that proposes to improve the environment of Heron Park, a significant portion of the Greenbelt and residents in the area. Given its unique nature, Boise City and I would be happy to answer any questions you have or attend a meeting to discuss further. Thank you for your consideration.

Sincerely,



Brad Watson, P.E.  
J-U-B ENGINEERS, Inc.

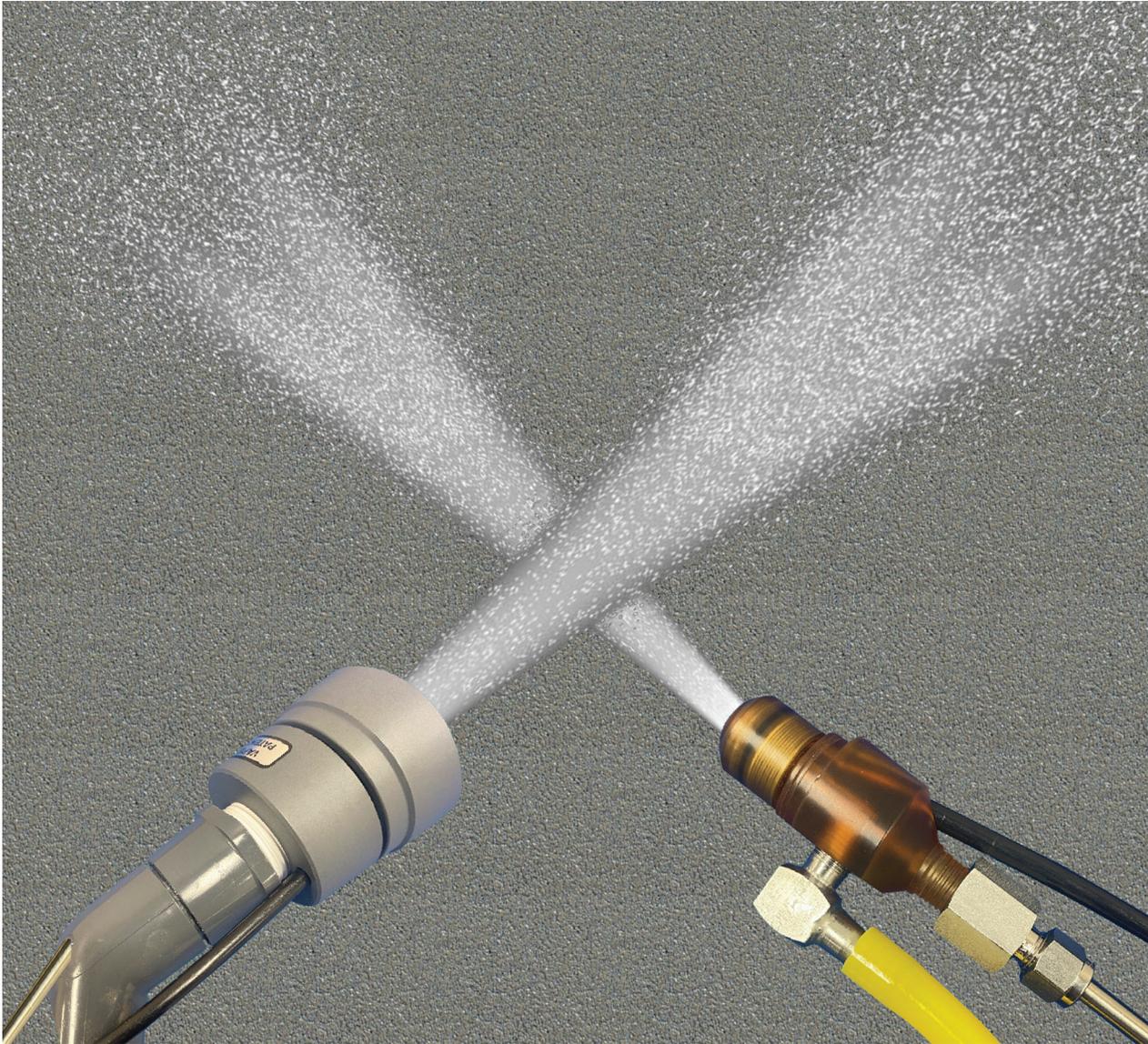
Cc: DeAnn Sevey, Project Manager-Sr., City of Boise

Attachments:

Public Works Permit Application  
Floodplain/Floodway Development Form  
Design Review Form  
Proposed Design Plans  
Vapex Equipment Brochure  
Light Fixture Brochure

## Radical Oxidizing Technology

REMEDiate ODOR - FOG - CORROSION



- Designed for municipal wastewater applications
- No chemicals or biosolutions required
- Minimal startup & operation costs
- Easy installation & low maintenance



# Proven Performance in Hundreds of Locations

The Vapex™ odor control system, with its patented air atomizing three-fluid nozzle, enhances the Advanced Oxidation Process by creating hydroxyl radicals (-OH); the most potent vaporized oxidant used in odor treatment.

The nozzle combines ozone, water and air to create a hydroxyl radical mist that efficiently disperses throughout enclosed spaces, such as: lift stations, wet wells, holding tanks, diversion boxes, and headworks channels.

The technology treats offensive odors in place, greatly reducing energy costs. Vapex™ units are considered a sustainable green technology, have a small footprint, require minimal water and electricity, are extremely quiet and generate no waste products.

## PROVEN

An independent study at the University of Central Florida found that hydroxyl radicals are being produced by combining micron-sized water particles and ozone using Vapex™ patented nozzle.

## ACCEPTED

Major engineering firms and a state EPA determined Vapex™ technology is effective in eliminating odors and remediating FOG.

## ESTABLISHED

Over the past 20 years, major municipalities have standardized on Vapex™ technology with over 400 installations in the US.



## ELIMINATES MICROBIAL INDUCED CORROSION

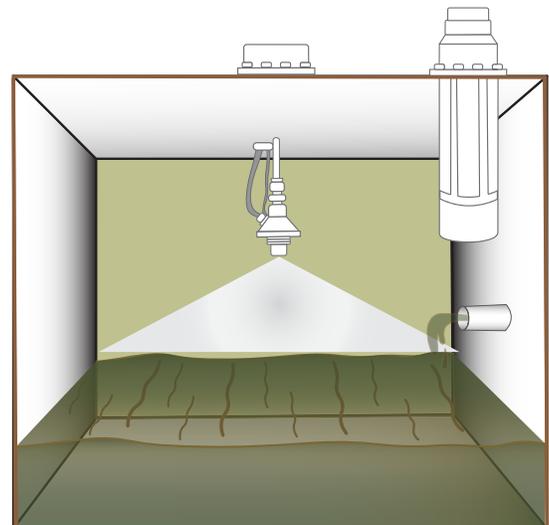
Vapex™ advanced oxidation process attacks biofilm on surfaces that lead to costly infrastructure corrosion. Surface pH in wet wells can be as low as 1; however, the powerful oxidant mist covers the entire surface eliminating the bacteria that metabolizes H<sub>2</sub>S to sulfuric acid. This raises the pH above 6 and preserves the infrastructure.

## REMEDIATES FATS, OILS & GREASE

Vapex™ remediates FOG by breaking the double carbon bonds that form the fatty acid chain and prevents it from reforming downstream. Odors, from volatile fatty acids, are decreased significantly. Continuous treatment reduces FOG from collecting on the surface of the process water and infrastructure, reducing or eliminating the need to remove and dispose of surface FOG.

## ELIMINATES ODOR

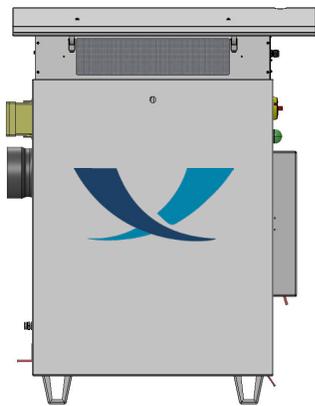
Hydroxyl radicals efficiently oxidize reduced sulfur compounds, amines and volatile fatty acids. This technology is customizable to meet varying installation requirements and can be installed indoors or outdoors. The hydroxyl radical mist results in almost instantaneous odor reduction.



# Base Models

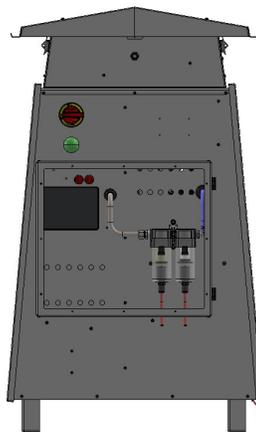
| Specifications                          | MILLI         | MICRO         | NANO          | PICO           |
|---|---------------|---------------|---------------|----------------|
| Max Number of Nozzles                   | 6             | 4             | 2             | 1 LV           |
| Max Treatment Volume, ft <sup>3</sup>   | 42,000        | 26,000        | 10,000        | 750            |
| Operating Temperature, °F               | 20-100        | 20-100        | 20-100        | 20-110         |
| Power Supply, VAC/A/Hz,<br>Single Phase | 208-240/30/60 | 208-240/30/60 | 208-240/30/60 | 110-120/15A/60 |
| Min Water Supply, gal/hr/noz            | 10            | 10            | 10            | 2              |
| Min Water Pressure, psi                 | 25            | 25            | 25            | 25             |
| Max Water Pressure                      | 75            | 75            | 75            | 75             |
| Physical, LxWxH, inches                 | 53 x 33 x 72  | 53 x 33 x 72  | 53 x 33 x 72  | 18 x 20 x 35   |
| Weight, lbs                             | 300 - 450     | 300 - 450     | 300 - 450     | 55 - 75        |
| Max Oxidant Output, g/hr                | 60            | 50            | 20            | 10             |
| Noise Level, dB                         | <75           | <75           | <75           | <70            |

Treatment volume based on application location. Contact your local Vapex™ representative for more information.



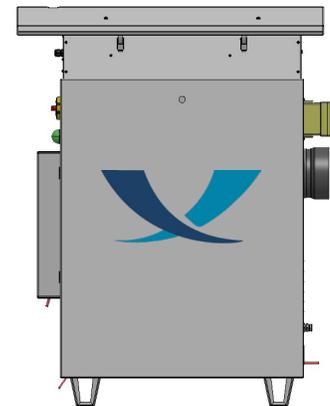
## FEATURES

- Powder coated aluminum
- Insulated cabinet
- Patented nozzles
- HMI/PLC (Excluding PICO) Red Lion
- Individual nozzle oxidant control
- Timer based oxidant control
- Auto-draining moisture removal system
- Pressure & flow based oxidant shut off
- Small footprint
- Low power usage
- Pedestal mount for added storage
- Trending critical parameters & operating conditions
- 1 Year mechanical warranty



## BENEFITS

- Treats high concentrations of:
  - Hydrogen sulfide
  - Mercaptans
  - Amines
- Eliminates odor complaints
- Reduces rate of microbial corrosion
- Remediates fats, oils & grease
- No chemicals or media required
- Quiet operation
- Easy and low cost installation
- Straightforward operation
- Environmentally friendly & sustainable
- Reaction condenses back into waste stream
- Green technology
- Low maintenance & operational costs
- Enhanced safety



## APPLICATIONS

- Pump stations/ wet wells/ lift stations
- Headworks
- Gravity thickeners
- Septage receiving
- Junction boxes & siphons
- Interceptors
- Manholes
- Sludge holding tanks
- Grease & scum pits
- Grit chambers
- Covered primary clarifiers
- Holding, retention & equalization tanks
- Covered influent channels
- Rotary screens
- Covered lagoons
- Metering stations
- Diversion chambers

# Accessories



LV NOZZLE



HV NOZZLE



RXN VENT

## EWAS - Extended Warranty and Service

### COMPATIBLE MATERIALS OF CONSTRUCTION

- Metals
  - Stainless Steel 316
  - Stainless Steel 304
  - Alluminum
  - Epoxy Coated Steel
- Polymers
  - HDPE
  - LDPE
  - EPDM
  - PVC/cPVC
  - FRP
  - Teflon®
- Infrastructure Material
  - Concrete
  - Polymer Concrete

### ZIPPER CABLE SHEATH

Protective sleeve for incompatible cables



### ENV ENCLOSURE

- Custom designed climate controlled enclosure
- Corrosion resistant polymer skid
- Protects unit from the elements
- TGIC Powder coated aluminum
- 12,000 BTU Mini Split
- External LOTO
- Unit shipped inside enclosure
- Unit power supply - 208-240 VAC, 30A, 60Hz, Single Phase
- A/C power supply - 208-230V, 20A, 60Hz, Single Phase
- Dimensions: 75.8" L x 44" W x 77.5" H
- Weight: 500 lbs (Average)

Contact your local Vapex™ sales representative to determine which Vapex™ unit is best suited to remediate FOG, eliminate odors and microbial induced corrosion for your application.

(888) 907 - 0004

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

[sales@vapex.com](mailto:sales@vapex.com)



# WDGE1 LED

## Architectural Wall Sconce



Catalog Number

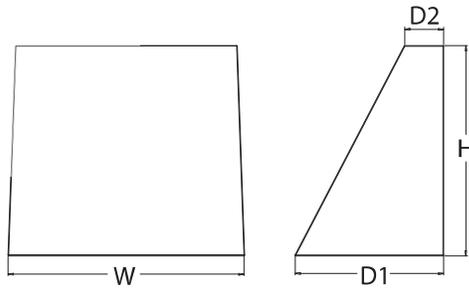
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

### Specifications

|                                     |       |
|-------------------------------------|-------|
| <b>Depth (D1):</b>                  | 5.5"  |
| <b>Depth (D2):</b>                  | 1.5"  |
| <b>Height:</b>                      | 8"    |
| <b>Width:</b>                       | 9"    |
| <b>Weight:</b><br>(without options) | 9 lbs |



### Introduction

The WDGE1 LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit [www.acuitybrands.com/designselect](http://www.acuitybrands.com/designselect).  
\*See ordering tree for details

### WDGE LED Family Overview

| Luminaire | Optics               | Standard EM, 0°C | Cold EM, -20°C | Sensor              | Approximate Lumens (4000K, 80CRI) |        |        |        |        |        |        |
|-----------|----------------------|------------------|----------------|---------------------|-----------------------------------|--------|--------|--------|--------|--------|--------|
|           |                      |                  |                |                     | P0                                | P1     | P2     | P3     | P4     | P5     | P6     |
| WDGE1 LED | Visual Comfort       | 4W               |                | --                  | 750                               | 1,200  | 2,000  | --     | --     | --     | --     |
| WDGE2 LED | Visual Comfort       | 10W              | 18W            | Standalone / nLight | --                                | 1,200  | 2,000  | 3,000  | 4,500  | 6,000  | --     |
| WDGE2 LED | Precision Refractive | 10W              | 18W            | Standalone / nLight | 700                               | 1,200  | 2,000  | 3,200  | 4,200  | --     | --     |
| WDGE3 LED | Precision Refractive | 15W              | 18W            | Standalone / nLight | 6,000                             | 7,500  | 8,500  | 10,000 | 12,000 | --     | --     |
| WDGE4 LED | Precision Refractive |                  |                | Standalone / nLight | --                                | 12,000 | 16,000 | 18,000 | 20,000 | 22,000 | 25,000 |

### Ordering Information

**EXAMPLE:** WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

| Series    | Package | Color Temperature      | CRI   | Distribution                    | Voltage          | Mounting  |
|-----------|---------|------------------------|-------|---------------------------------|------------------|---|
| WDGE1 LED | P0      | 27K 2700K              | 80CRI | VF Visual comfort forward throw | MVOLT            | <b>Shipped included</b><br>SRM Surface mounting bracket<br>ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) <sup>3</sup><br><br><b>Shipped separately</b><br>AWS 3/8inch Architectural wall spacer <sup>4</sup><br>PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available. <sup>4</sup> |
|           | P1      | 30K 3000K              | 90CRI | VW Visual comfort wide          | 347 <sup>2</sup> |   |
|           | P2      | 35K 3500K              |       |                                 |                  |   |
|           |         | 40K 4000K              |       |                                 |                  |   |
|           |         | 50K <sup>1</sup> 5000K |       |                                 |                  |   |

| Options   | Finish                           |
|---|----------------------------------|
| E4WH Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min) <sup>5</sup>             | DDBXD Dark bronze                |
| PE Photocell, Button Type <sup>6</sup>  | DBLXD Black                      |
| DS Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details) <sup>7</sup>     | DNAXD Natural aluminum           |
| DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) | DWHXD White                      |
| BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.                                | DSSXD Sandstone                  |
| DSLE Dual Switching (1 Driver, 2 Light Engines)   | DDBTXD Textured dark bronze      |
| CCE Coastal Construction <sup>4</sup>   | DBLTXD Textured black            |
|   | DNATXD Textured natural aluminum |
|   | DWHGXD Textured white            |
|   | DSSTXD Textured sandstone        |



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • [www.lithonia.com](http://www.lithonia.com)  
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WDGE1 LED  
Rev. 04/02/25

## Accessories

Ordered and shipped separately.

|                   |   |
|-------------------|---|
| WDGEAWS DDBXD     | WDGE 3/8inch Architectural Wall Spacer (specify finish) |
| WDGE1PBBW DDBXD U | WDGE1 surface-mounted back box (specify finish)         |

## NOTES

- 50K not available in 90CRI.
- 347V not available with E4WH, DS, DSLE or PE.
- Not qualified for DLC. Not available with E4WH.
- For PBBW and AWS with CCE option, require an RFA.
- E4WH not available with PE or DS.
- PE not available with DS.
- DS is not available with P0.

## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

| Performance Package | System Watts | Dist. Type | 27K (2700K, 80 CRI) |     |   |   |   | 30K (3000K, 80 CRI) |     |   |   |   | 35K (3500K, 80 CRI) |     |   |   |   | 40K (4000K, 80 CRI) |     |   |   |   | 50K (5000K, 80 CRI) |     |   |   |   |
|---------------------|--------------|------------|---------------------|-----|---|---|---|---------------------|-----|---|---|---|---------------------|-----|---|---|---|---------------------|-----|---|---|---|---------------------|-----|---|---|---|
|                     |              |            | Lumens              | LPW | B | U | G | Lumens              | LPW | B | U | G | Lumens              | LPW | B | U | G | Lumens              | LPW | B | U | G | Lumens              | LPW | B | U | G |
| P0                  | 7W           | VF         | 693                 | 99  | 0 | 0 | 0 | 718                 | 103 | 0 | 0 | 0 | 739                 | 106 | 0 | 0 | 0 | 759                 | 108 | 0 | 0 | 0 | 764                 | 109 | 0 | 0 | 0 |
|                     |              | VW         | 694                 | 99  | 0 | 0 | 0 | 720                 | 103 | 0 | 0 | 0 | 740                 | 106 | 0 | 0 | 0 | 760                 | 109 | 0 | 0 | 0 | 766                 | 109 | 0 | 0 | 0 |
| P1                  | 10W          | VF         | 1,120               | 112 | 0 | 0 | 0 | 1,161               | 116 | 0 | 0 | 0 | 1,194               | 119 | 0 | 0 | 0 | 1,227               | 123 | 0 | 0 | 0 | 1,235               | 123 | 0 | 0 | 0 |
|                     |              | VW         | 1,122               | 112 | 0 | 0 | 0 | 1,163               | 116 | 0 | 0 | 0 | 1,196               | 120 | 0 | 0 | 0 | 1,229               | 123 | 0 | 0 | 0 | 1,237               | 124 | 0 | 0 | 0 |
| P2                  | 15W          | VF         | 1,806               | 120 | 1 | 0 | 0 | 1,872               | 125 | 1 | 0 | 0 | 1,925               | 128 | 1 | 0 | 0 | 1,978               | 132 | 1 | 0 | 0 | 1,992               | 133 | 1 | 0 | 0 |
|                     |              | VW         | 1,809               | 120 | 1 | 0 | 0 | 1,876               | 125 | 1 | 0 | 0 | 1,929               | 128 | 1 | 0 | 0 | 1,982               | 132 | 1 | 0 | 0 | 1,996               | 133 | 1 | 0 | 0 |

### Electrical Load

| Performance Package | System Watts | Current (A) |       |       |       |       |
|---------------------|--------------|-------------|-------|-------|-------|-------|
|                     |              | 120V        | 208V  | 240V  | 277V  | 347V  |
| P0                  | 7W           | 0.060       | 0.035 | 0.030 | 0.026 | --    |
|                     | 9W           | --          | --    | --    | --    | 0.026 |
| P1                  | 10W          | 0.082       | 0.049 | 0.043 | 0.038 | --    |
|                     | 13W          | --          | --    | --    | --    | 0.046 |
| P2                  | 15W          | 0.132       | 0.081 | 0.072 | 0.064 | --    |
|                     | 18W          | --          | --    | --    | --    | 0.056 |

### Lumen Multiplier for 90CRI

| CCT | Multiplier |
|-----|------------|
| 27K | 0.845      |
| 30K | 0.867      |
| 35K | 0.845      |
| 40K | 0.885      |
| 50K | 0.898      |

### Lumen Output in Emergency Mode (4000K, 80 CRI)

| Option | Dist. Type | Lumens |
|--------|------------|--------|
| E4WH   | VF         | 646    |
|        | VW         | 647    |

### Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

| Ambient      | Lumen Multiplier |
|--------------|------------------|
| 0°C / 32°F   | 1.03             |
| 10°C / 50°F  | 1.02             |
| 20°C / 68°F  | 1.01             |
| 25°C / 77°F  | 1.00             |
| 30°C / 86°F  | 0.99             |
| 40°C / 104°F | 0.98             |

### Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

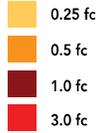
| Operating Hours          | 0   | 25,000 | 50,000 | 100,000 |
|--------------------------|-----|--------|--------|---------|
| Lumen Maintenance Factor | 1.0 | >0.96  | >0.95  | >0.91   |



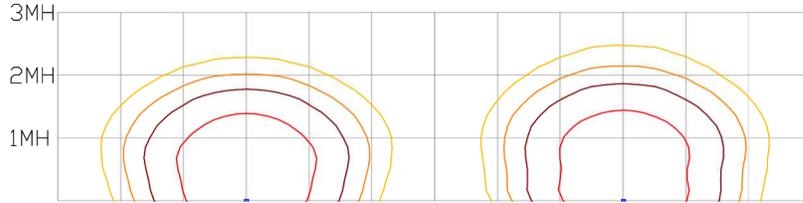
## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

### LEGEND



MH = 8ft  
Grid = 8ft x 8ft



WDGE1 LED P2 40K 80CRI VW

WDGE1 LED P2 40K 80CRI VF

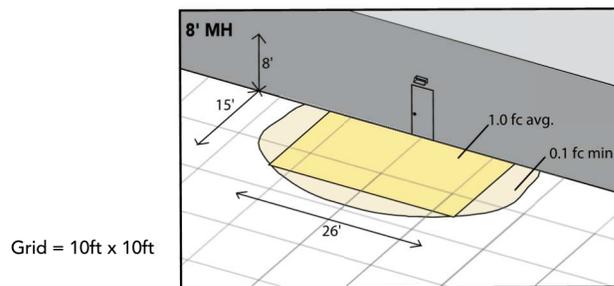
## Emergency Egress Options

### Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90 minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E4WH and VF distribution.



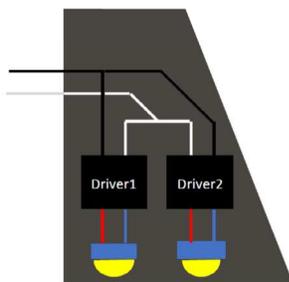
Grid = 10ft x 10ft

WDGE1 LED xx 40K 80CRI VF MVOLT E4WH

### Dual Switching (DS) Option

The dual switching option offers operational redundancy that certain codes require. With this option the luminaire comes integrated with two drivers and two light engines. These work completely independent to each other so that a failure of any individual component does not cause the whole luminaire to go dark.

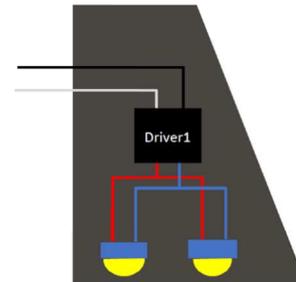
Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



### Dual Switching Light Engine (DSLE) Option

The dual switching option offers operational redundancy that certain codes require. With this option the luminaire comes integrated with one driver and two light engines. These work completely independent to each other so that a failure of either light engine does not cause the whole luminaire to go dark.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



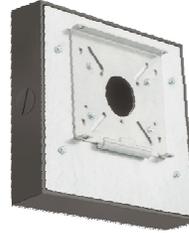


### E4WH – 4W Emergency Battery Backup

D = 5.5"

H = 8"

W = 9"



### PBBW – Surface-Mounted Back Box

Use when there is no junction box available.

D = 1.75"

H = 8"

W = 9"



### AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

## FEATURES & SPECIFICATIONS

### INTENDED USE

Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

### CONSTRUCTION

The single-piece die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP66 rating for the luminaire.

### FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

### OPTICS

Well crafted reflector optics allow the light engine to be recessed within the luminaire, providing visual comfort, superior distribution, uniformity, and spacing in wall-mount applications. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

### ELECTRICAL

Light engine consists of high-efficiency LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

### INSTALLATION

A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

### LISTINGS

CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 2700K and 3000K color temperature only and SRM mounting only.

### GOVERNMENT PROCUREMENT

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act. Please refer to [www.acuitybrands.com/buy-american](http://www.acuitybrands.com/buy-american) for additional information.

### WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

# CITY OF BOISE

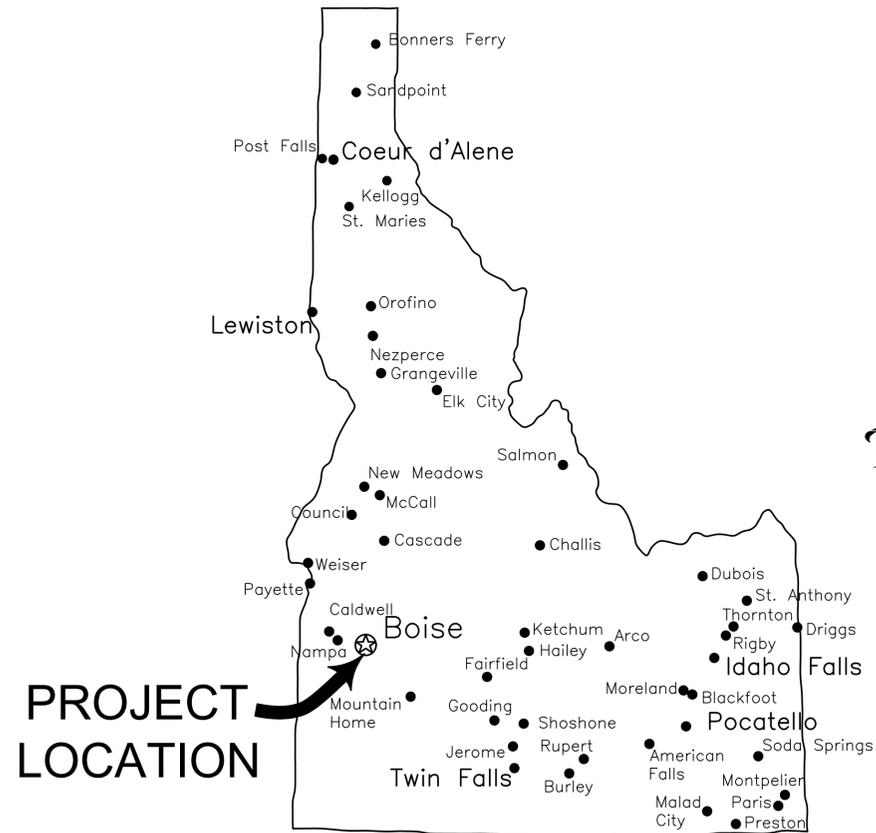
# SBI ODOR MITIGATION

## CSP-1085

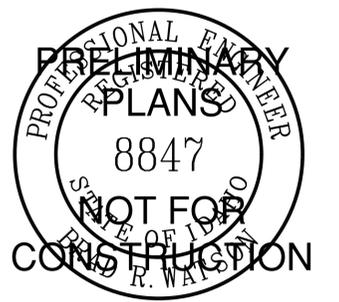
## 2025

### INDEX OF SHEETS

| SHEET NUMBER | SHEET TITLE                |
|--------------|----------------------------|
| G-001        | COVER SHEET                |
| G-002        | GENERAL NOTES              |
| G-003        | LEGENDS AND ABBREVIATIONS  |
| C-201        | SITE PLAN                  |
| C-202        | ENLARGED SITE PLAN         |
| C-501        | DETAILS                    |
| M-101        | MECHANICAL PLAN            |
| M-301        | MECHANICAL SECTION         |
| M-302        | MECHANICAL SECTION         |
| M-501        | MECHANICAL DETAILS         |
| S-101        | FLOOR PLAN                 |
| S-401        | ELEVATIONS                 |
| S-501        | STRUCTURAL DETAILS         |
| S-502        | STRUCTURAL DETAILS         |
| S-503        | STRUCTURAL DETAILS         |
| S-901        | TYPICAL STRUCTURAL DETAILS |
| S-902        | TYPICAL STRUCTURAL DETAILS |
| S-903        | TYPICAL STRUCTURAL DETAILS |



VICINITY MAP



Know what's below.  
Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE  
YOU DIG, GRADE, OR EXCAVATE FOR THE  
MARKING OF UNDERGROUND MEMBER  
UTILITIES



Engineers • Surveyors • Planners

CITY OF BOISE  
ODOR CONTROL

COVER SHEET  
AND  
VICINITY MAP

SHEET: G-001

PROJECT NUMBER:  
CSP-1085

Plot Date: 10/20/2025, 12:27 PM. Plotted By: Allen Boehm  
 Base Create: 4/25/2024. Location: \\JUB\COMMON\CENTRAL\CLIENTS\BOISE\CITY PROJECTS\10-22-077-SBI\COMMUNICATION DESIGN\CAD\SHEET\10-22-077-G-001.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
|------|-----|----------|------|-----|----------|
|      |     |          |      |     |          |

|              |                           |
|--------------|---------------------------|
| DESIGNED: RT | DATE: 2023                |
| DRAWN: ARB   | SECTION: 11, T3N, R2E     |
| CHECKED: BRW | FILE NO.: 10-22-077_G-001 |

**PUBLIC WORKS DEPARTMENT**  
 150 N. CAPITOL BLVD.  
 BOISE, IDAHO 83702  
 (208) 384-3900

## GENERAL NOTES

- ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT VERSION OF THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPMC), THE CITY OF BOISE SUPPLEMENTAL SPECIFICATIONS TO THE ISPMC (AND ANY ADDENDUMS), AND THE REQUIREMENTS OF THE ADA COUNTY HIGHWAY DISTRICT (ACHD). THE MORE STRINGENT OF ANY OF THESE STANDARDS SHALL BE THE CONTROLLING STANDARDS OR SPECIFICATIONS.
- THE CONTRACTOR SHALL HAVE A COPY OF THE LATEST CITY OF BOISE SUPPLEMENTAL SPECIFICATIONS AND DRAWINGS ON SITE AT ALL TIMES DURING CONSTRUCTION (AVAILABLE ON THE WEBSITE). FAILURE TO HAVE A CURRENT COPY OF THE SUPPLEMENTAL SPECIFICATIONS ON SITE COULD BE GROUNDS FOR A STOP WORK ORDER UNTIL THE SITUATION IS RESOLVED.
- THE CONTRACTOR SHALL HAVE PLANS STAMPED "APPROVED FOR CONSTRUCTION" BY CITY OF BOISE PUBLIC WORKS DEPARTMENT ON SITE AT ALL TIMES.
- ALL CONTRACTORS, SUBCONTRACTORS AND UTILITY CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE PRIOR TO START OF WORK.
- CONTRACTORS SHALL NOTIFY THE APPROPRIATE AGENCY WHEN MATERIALS ARE ON SITE OR INSPECTION OF THE WORK IS REQUIRED. ALL INSPECTIONS OF THE WORK OR MATERIALS REQUIRE A MINIMUM TWENTY FOUR (24) HOUR NOTICE TO THE PROJECT INSPECTOR.
- ALL MATERIAL FURNISHED ON, OR FOR THE PROJECT MUST MEET THE MINIMUM REQUIREMENTS OF THE APPROVING AGENCIES. AT THE REQUEST OF THE APPROVING AGENCY OR THE DESIGN ENGINEER, CONTRACTORS SHALL FURNISH PROOF THAT ALL MATERIALS INSTALLED ON THIS PROJECT MEET THE SPECIFICATION REQUIREMENTS SET FORTH IN GENERAL CONSTRUCTION NOTE NO. 1.
- WORK SUBJECT TO APPROVAL BY ANY GOVERNMENTAL AGENCY MUST BE APPROVED PRIOR TO (A) BACKFILLING TRENCHES FOR PIPE; (B) PLACING OF AGGREGATE BASE; (C) PLACING OF CONCRETE; (D) PLACING OF ASPHALT PAVING.
- INSPECTION, APPROVAL AND FINAL ACCEPTANCE OF ALL WATER, SEWER AND RECYCLED WATER CONSTRUCTION SHALL BE BY THE PUBLIC WORKS DEPARTMENT, AND THEIR DECISION SHALL BE FINAL. SUCH INSPECTIONS SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER IN ACCORDANCE WITH THE DEQ/QLPE APPROVED CONSTRUCTION PLANS.
- ANY DEVIATION FROM THE APPROVED PLANS AND SPECIFICATIONS MUST HAVE THE APPLICABLE AGENCY APPROVAL IN WRITING PRIOR TO CONSTRUCTION.
- MISCELLANEOUS ITEMS SUCH AS FENCES, MAILBOXES, SIGNS, IRRIGATION/DRAINAGE FACILITIES, AND SMALL STRUCTURES WHICH ARE REQUIRED TO BE TEMPORARILY RELOCATED SHALL BE REPLACED IN KIND OR REUSED TO AN EQUAL OR BETTER PRE-EXISTING CONDITION. IF SUCH WORK IS REQUIRED AND NOT SPECIFICALLY LISTED ON THE BID SCHEDULE, IT SHALL BE CONSIDERED INCIDENTAL WITH THE OTHER BID ITEMS.
- RETAIN AND PROTECT ALL FEATURES NOT DESIGNATED TO BE MODIFIED OR CONSTRUCTED.
- THE CONTRACTOR SHALL MAINTAIN AND ENSURE THE FUNCTIONING OF ALL IRRIGATION AND WASTEWATER COLLECTION FACILITIES ADJACENT TO THE WORK, AND PROVIDE TEMPORARY FACILITIES IF NEEDED TO ACCOMMODATE THE WORK, AS APPROVED BY THE AGENCY HAVING AUTHORITY. CONTRACTOR SHALL COORDINATE ALL WORK WITH GOVERNING IRRIGATION AND DRAINAGE AGENCIES IF SUCH TEMPORARY FACILITIES ARE REQUIRED.
- CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS INSPECTOR 48 HOURS PRIOR TO THE REQUIRED TESTING. THE CONTRACTOR MAY NOT OPEN OR CLOSE WATER VALVES.

## ROADWAY NOTES

- ALL CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE CURRENT EDITION OF THE ISPMC AND THE ACHD SUPPLEMENTAL SPECIFICATIONS. NO EXCEPTIONS TO ACHD DISTRICT POLICY, STANDARDS AND THE ISPMC WILL BE ALLOWED UNLESS, SPECIFICALLY AND PREVIOUSLY APPROVED IN WRITING BY THE ACHD.
- ALL CONTRACTORS WORKING WITHIN THE PUBLIC ROAD RIGHT-OF-WAY ARE REQUIRED TO SECURE A RIGHT-OF-WAY CONSTRUCTION PERMIT FROM ACHD AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO ANY CONSTRUCTION.
- ACHD WILL INSPECT ALL WORK WITHIN THE PUBLIC RIGHTS-OF-WAY TO INCLUDE UTILITY TRENCHES ABOVE THE PIPE ZONE.
- BOISE PUBLIC WORKS WILL INSPECT STORM DRAINAGE IMPROVEMENTS SERVING PRIVATE ROADS AND PARKING LOT IMPROVEMENTS OUTSIDE THE PUBLIC RIGHT-OF-WAY.
- CONSTRUCTION TRAFFIC CONTROL AND SURFACE REPAIR SHALL BE AN ONGOING PROCESS, REFER TO THE PROJECT MANUAL FOR REQUIREMENTS. MAINTAIN ALL ACCESS TO EXISTING PUBLIC AND PRIVATE ROADS, PROPERTIES, AND BUSINESSES DURING CONSTRUCTION. COORDINATE WITH ALL AFFECTED PROPERTY OWNERS, AND JURISDICTIONAL AGENCIES AND MINIMIZE THE DISRUPTION TO ACCESS AND OPERATIONS.

## PAVEMENT RESTORATION NOTES

- ALL ASPHALT MATCH LINES FOR PAVEMENT REPAIR SHALL BE PARALLEL TO THE CENTER LINE OF THE STREET AND INCLUDE ANY AREA DAMAGED BY EQUIPMENT DURING TRENCHING OPERATIONS.
- CONTRACTOR SHALL REPLACE THE PAVEMENT SURFACE TO ENSURE MATCH LINE DOES NOT FALL WITHIN THE WHEEL PATH OF A LANE.
- ANY EXCEPTIONS TO THESE RULES SHALL BE PRE-APPROVED IN WRITING BY ACHD STAFF BEFORE CONSTRUCTION BEGINS.
- SAW CUT ALL EDGES OF PAVEMENT REMOVAL AREAS. SAW CUT FULL DEPTH OF ASPHALT PAVEMENT.
- CONSTRUCT ALL PAVEMENT MATCHES (INCLUDING DRIVEWAY APPROACHES AND UTILITY CUT STREET REPAIRS) WITHIN ACHD RIGHT-OF-WAY TO MATCH THE EXISTING STREET PAVEMENT SECTION OR TO USE THE FOLLOWING: (UNLESS SPECIFICALLY DETAILED) 3-INCHES OF ASPHALT, 8-INCHES OF 3/4-INCH MINUS CRUSHED AGGREGATE, AND 18-INCHES OF 6-INCH MINUS PITRUN. USE WHICHEVER PAVEMENT SECTION IS GREATER. SEE DETAIL SHEET C-501.
- ACTUAL FIELD CONDITIONS DURING TRENCHING MAY REQUIRE ADDITIONAL PAVEMENT REPAIR BEYOND THE LIMITS SHOWN ON THE PLANS. THE FOLLOWING CONDITIONS ARE LISTED IN SECTION 6008.13.11 OF ACHD POLICY MANUAL.
  - ALL ASPHALT MATCH LINES FOR PAVEMENT REPAIR SHALL BE PARALLEL TO THE CENTERLINE OF THE STREET AND INCLUDE ANY AREA DAMAGED BY EQUIPMENT DURING TRENCHING OPERATIONS.
  - IF THE CUMULATIVE DAMAGED PAVEMENT AREA EXCEEDS 50% OF THE TOTAL ROAD SURFACE, CONTRACTOR SHALL REPLACE THE ENTIRE ROADWAY SURFACE.
  - CONTRACTOR SHALL REPLACE THE PAVEMENT SURFACE TO ENSURE MATCH LINE DOES NOT FALL WITHIN THE WHEEL PATH OF A LANE. MATCH LINE SHALL ONLY FALL IN THE CENTER OR EDGE OF A TRAVEL LANE.
  - FLOWABLE FILL OR IMPORTED MATERIAL MAY BE REQUIRED IF THE NATIVE TRENCH MATERIAL IS DEEMED UNSUITABLE BY ACHD, INSPECTOR, DOES NOT MEET COMPACTION STANDARDS OR TIME IS A CRITICAL FACTOR.
- ALL PAVEMENT MATCHES (INCLUDING DRIVEWAY APPROACHES AND UTILITY CUT STREET REPAIRS) WITHIN ACHD RIGHT-OF-WAY TO MEET DETAILS SHOWN ON SHEET C-501.
- IN CASES WHERE INCLEMENT WEATHER PREVENTS FINAL TYPE "P" RESTORATION, TEMPORARY SURFACING SHALL BE PLACED AS REQUIRED IN SECTION 307 OF THE I.S.P.W.C.
- ADJUST NEW AND EXISTING MANHOLE COVERS, VALVE BOXES, AND OTHER UTILITY COVERS TO FINISH PAVEMENT ELEVATION OF THE SURFACE REPAIR. CONCRETE COLLARS SHALL BE PER SD-508.
- PRIOR TO PLACEMENT OF ANY PAVEMENT MARKINGS CONTACT ACHD CONSTRUCTION SERVICES FOR COMPLIANCE WITH POLICY AND EXISTING PAVEMENT MARKINGS AT (208) 387-6280.

## UTILITY NOTES

- APPROXIMATE LOCATIONS OF UTILITIES ARE SHOWN ON THE PLANS. THEY ARE TO BE USED FOR GENERAL INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN CONSTRUCTION MIGHT INTERFERE WITH NORMAL OPERATION OF ANY UTILITIES. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE APPROPRIATE UTILITY COMPANY FIELD-LOCATE ANY UTILITY INSTALLATIONS WHICH MIGHT BE AFFECTED BY CONSTRUCTION PRIOR TO BEGINNING WORK IN THAT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SERVICE OF EXISTING UTILITIES AND FOR RESTORING ANY UTILITIES DAMAGED DUE TO CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. DEPTHS AND ELEVATIONS OF UTILITIES ARE UNKNOWN UNLESS ELEVATIONS ARE SHOWN SPECIFICALLY ON THE PLANS. CONTRACTOR SHALL FIELD VERIFY UTILITY DEPTHS, ELEVATIONS, ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- COORDINATE CONSTRUCTION ACTIVITIES TO MINIMIZE DISRUPTION OF SERVICES. ATTEND AND PARTICIPATE IN A SERVICES COORDINATION MEETING AT THE START OF CONSTRUCTION AND AS REQUIRED DURING CONSTRUCTION TO RESOLVE SERVICE ISSUES.

## SEWER NOTES

- CONSTRUCTION OF THE SEWER SYSTEM SHALL CONFORM TO THE STANDARDS IN THE WASTEWATER RULES (IDAPA 58.01.16) AS WELL AS THE STANDARDS AND SPECIFICATIONS REFERRED TO IN GENERAL CONSTRUCTION NOTE NO. 1.
- WHEN COVER OVER A SEWER PIPE IS LESS THAN THREE (3) FEET FROM TOP OF PIPE TO SUBGRADE OR TOP OF PIPE TO NATURAL GROUND, USE "CLASS 200 WATER PRESSURE PIPE", ASTM D 2241, SDR 21, INCLUDING SERVICE LINES AND FITTINGS.
- THE CONTRACTOR SHALL CONDUCT AN AIR PRESSURE TEST AND TELEVISION INSPECTION AFTER ALL UNDERGROUND UTILITIES HAVE BEEN INSTALLED. THE CONTRACTOR SHALL PROVIDE A VIDEOTAPE OF THE INSPECTION PRIOR TO FINAL ACCEPTANCE OF THE SEWER. REFER TO THE PROJECT SPECIFICATIONS FOR TESTING REQUIREMENTS.
- ALL CCTV INSPECTIONS SHALL BE COMPLETED BY A THIRD PARTY TESTING FIRM.
- EXISTING INVERTS BASED ON FIELD DATA. CONTRACTOR TO FIELD VERIFY PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
- STATIONING BASED ON CENTERLINE OF THE PROPOSED SEWER PIPE.
- PLACE SEWER SERVICE LINES IN A SIX (6) INCH DIAMETER WATER CLASS PIPE WHEREVER THE SERVICE LINE CROSSES A STORMWATER TREATMENT FACILITY (i.e., SEEPAGE BEDS, DRAINAGE SWALES), OR WHERE CALLED FOR ON THE PLANS. REFER TO TECHNICAL SPECIFICATIONS.
- EXISTING SEWER SERVICE CONNECTION LOCATIONS, AS SHOWN ON THE PLANS, TO HOUSES AND BUSINESSES ARE APPROXIMATE AND BASED ON FIELD VISITS. SOME CONNECTION LOCATIONS WERE UNKNOWN. ALL EXISTING SEWER SERVICE CONNECTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY SERVICES ARE ACTIVE PRIOR TO COMPLETING SERVICE REPLACEMENTS, REFER TO SPECIAL PROVISIONS.
- CONTRACTOR IS RESPONSIBLE TO MAINTAIN SEWAGE SERVICE. REFER TO SPECIAL PROVISIONS FOR SEWAGE BY-PASS REQUIREMENTS.
- REFER TO SPECIAL PROVISIONS, APPENDIX A FOR SERVICE LINE ROUTING.
- ALL SEWER WORK OUTSIDE OF THE ROW SHALL BE PER THE TECHNICAL SPECIFICATIONS, GRANT OF ACCESS AGREEMENT, AND IDAHO STATE PLUMBING CODE.

## CONTACT PHONE NUMBERS

CITY OF BOISE  
DOUG RHINEHART 208-395-7832  
PROJECT MANAGER

CITY OF BOISE  
RICH WIEBE 208-608-7502  
ASSISTANT CITY ENGINEER

GARDEN CITY  
COLIN SCHMIDT 208-472-2949  
PUBLIC WORKS DEPARTMENT

## BASIS OF COORDINATES AND ELEVATIONS

COORDINATE SYSTEM:  
MODIFIED IDAHO STATE PLANE WEST ADA COUNTY ZONE  
TRANSVERSE MERCATOR PROJECTION  
ORIGIN LATITUDE: N41°40'00.00000"  
ORIGIN LONGITUDE: W115°45'00.00000"  
FALSE NORTHING: 0.000 FT  
FALSE EASTING: 2625138.999 FT  
SCALE FACTOR: 1.0001132803  
GEOID12B (CONUS)  
ELEVATION SOURCE:  
HORIZONTAL DATUM: NAD83  
VERTICAL DATUM: NAVD88

## MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITIES

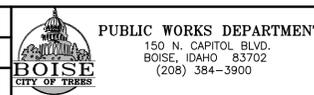
- PROPERTY AND LAND CORNER MONUMENTS SHALL BE SAVED AND PROTECTED IN ACCORDANCE WITH IDAHO CODE 55-1613 AND 54-1234. MONUMENTS INCLUDE BUT ARE NOT LIMITED TO: LAND AND PROPERTY CORNERS, PUBLIC LAND SURVEY CORNERS, SUBDIVISION, TRACT, OR OTHER LAND BOUNDARY CORNERS. WHEN SUCH MONUMENTS MAY BE DESTROYED BY CONSTRUCTION, THE MONUMENT SHALL BE REFERENCED UNDER THE DIRECTION OF AN IDAHO PROFESSIONAL LAND SURVEYOR PRIOR TO CONSTRUCTION. ALL SUCH MONUMENTS SHALL BE REESTABLISHED AFTER CONSTRUCTION BY AN IDAHO PROFESSIONAL LAND SURVEYOR AND CORNER RECORDS FILED PER IDAHO STATE CODE.



Plot Date: 10/20/2023, 12:27 PM Plotted By: Allen Behm  
 Date Created: 9/20/2022 Location: \\JUB\COM\CENTRAL\CLIENTS\10\BOISE\CITY\PROJECTS\10-22-077-SPR\DOCUMENTATION\DESIGN\CAD\SHEET\_10-22-077\_G-002.DWG

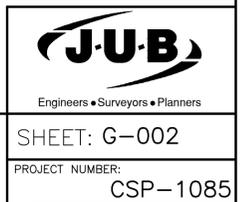
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| DESIGNED: RT | DATE: 2023                |
| DRAWN: ARB   | SECTION: 11, T3N, R2E     |
| CHECKED: BRW | FILE NO.: 10-22-077_G-002 |



CITY OF BOISE  
ODOR CONTROL

GENERAL NOTES  
SHEET: G-002  
PROJECT NUMBER:  
CSP-1085



**SYMBOL LEGEND**

| SYMBOL DESCRIPTION      | EXISTING SYMBOL          | PROPOSED SYMBOL |
|-------------------------|--------------------------|-----------------|
| <b>SURVEY</b>           |                          |                 |
| CAP (ALUMINUM)          | ⊕                        | ⊕               |
| CAP (BRASS)             | ⊗                        | ⊗               |
| CHISELED X              | ⊗                        | ⊗               |
| CTRL PT GENERIC         | ⊕                        | ⊕               |
| CTRL PT 1/2" REBAR      | ⊕<br>1/2" PIN CONTROL PT | ⊕               |
| CTRL PT 5/8" REBAR      | ⊕<br>5/8" PIN CONTROL PT | ⊕               |
| CTRL PT 60D NAIL        | ⊕<br>60D                 | ⊕               |
| CTRL PT HUB & TACK      | ⊕<br>HT                  | ⊕               |
| CTRL PT PK NAIL         | ⊕<br>PK                  | ⊕               |
| CTRL PT TEMP BENCH MARK | ⊕<br>TBM                 | ⊕               |
| NAIL                    | ⊕                        | ⊕               |
| NAIL AND TAG            | ⊕<br>N/T                 | ⊕               |
| NAIL (PK)               | ⊕<br>PK                  | ⊕               |
| BOLT                    | •                        | •               |
| DRILL STEEL             | ○                        | ○               |
| REBAR (1/2")            | •                        | •               |
| REBAR (5/8")            | •                        | •               |
| STAINLESS STEEL ROD     | ▲                        | ▲               |
| IRON PIPE               | ⊕                        | ⊕               |
| RAILROAD SPIKE          | ◇                        | ◇               |
| R/W MONUMENT            | ⊕                        | ⊕               |
| STONE                   | ⊕                        | ⊕               |
| SECTION CORNER. MON.    | 22 15<br>21 16           | 22 15<br>21 16  |
| SECTION QUARTER MON.    | 15<br>22                 | 15<br>22        |
| <b>SITE</b>             |                          |                 |
| BOLLARD                 | ■                        | ■               |
| BOULDER                 | ⊕                        | ⊕               |
| DRINKING FOUNTAIN       | ⊕                        | ⊕               |
| FLAGPOLE                | ⊕                        | ⊕               |
| GATE                    | ⊕                        | ⊕               |
| MAIL BOX                | ⊕                        | ⊕               |
| PARKING METER           | ⊕                        | ⊕               |
| POST                    | •                        | •               |
| SIGN                    | ⊕                        | ⊕               |
| SPOT ELEVATION          | ⊕                        | ⊕               |
| TREE (SHRUB)            | ⊕                        | ⊕               |
| TREE (STUMP)            | ⊕                        | ⊕               |
| TREE (CONIFEROUS)       | ⊕                        | ⊕               |
| TREE (DECIDUOUS)        | ⊕                        | ⊕               |
| TEST HOLE               | ⊕                        | ⊕               |
| WELL                    | ⊕                        | ⊕               |
| WELL (MONITORING)       | ⊕                        | ⊕               |

| SYMBOL DESCRIPTION          | EXISTING SYMBOL | PROPOSED SYMBOL |
|-----------------------------|-----------------|-----------------|
| <b>UTILITIES</b>            |                 |                 |
| MANHOLE (GENERIC)           | ○               | ●               |
| PRESSURE CLEAN OUT AT GRADE | ⊕               | ⊕               |
| THRUST BLOCK                | ⊕               | ▲               |
| VAULT                       | ⊕               | ⊕               |
| <b>COMMUNICATION</b>        |                 |                 |
| TELE. MANHOLE               | ⊕               | ●               |
| TELE. PEDASTAL              | ⊕               | ⊕               |
| TELE. POLE                  | ⊕               | ⊕               |
| TV PEDASTAL                 | ⊕               | ⊕               |
| GUY WIRE                    | ⊕               | ⊕               |
| <b>DOMESTIC WATER</b>       |                 |                 |
| FIRE HYDRANT                | ⊕               | ⊕               |
| BACKFLOW DEVICE             | ⊕               | ⊕               |
| YARD HYDRANT                | ⊕               | ⊕               |
| WATER MANHOLE               | ⊕               | ●               |
| WATER METER                 | ⊕               | ⊕               |
| WATER VALVE                 | ⊕               | ⊕               |
| <b>ELECTRIC</b>             |                 |                 |
| ELEC. MANHOLE               | ⊕               | ●               |
| ELEC. METER                 | ⊕               | ⊕               |
| ELEC. TRANS.                | ⊕               | ⊕               |
| JUNCTION BOX                | ⊕               | ⊕               |
| POWER POLE                  | ⊕               | ⊕               |
| POWER STUB                  | ⊕               | ⊕               |
| STREET LIGHT                | ⊕               | ⊕               |
| TRAFFIC SIGNAL POLE         | ⊕               | ⊕               |
| <b>IRRIGATION</b>           |                 |                 |
| IRRIGATION VALVE            | ⊕               | ⊕               |
| IRRIGATION VALVE BOX        | ⊕               | ⊕               |
| SPRINKLER                   | ⊕               | ▲               |
| <b>NATURAL GAS</b>          |                 |                 |
| GAS METER                   | ⊕               | ⊕               |
| GAS VALVE                   | ⊕               | ⊕               |
| <b>SANITARY SEWER</b>       |                 |                 |
| CLEANOUT                    | ⊕               | ⊕               |
| SEWER STUB                  | ⊕               | ⊕               |
| SS MANHOLE                  | ⊕               | ⊕               |
| <b>STORM DRAIN</b>          |                 |                 |
| CATCH BASIN                 | ⊕               | ⊕               |
| DRY WELL                    | ⊕               | ⊕               |
| FLARE END                   | ⊕               | ⊕               |
| GREASE TRAP                 | ⊕               | ⊕               |
| SD MANHOLE                  | ⊕               | ●               |

**LINE LEGEND**

| LINE DESCRIPTION                      | PROPOSED LINE | EXISTING LINE |
|---------------------------------------|---------------|---------------|
| <b>BOUNDARY</b>                       |               |               |
| PROPERTY LINE                         | — P/L —       | — P/L —       |
| ADA COUNTY GIS PROPERTY LINE          | — P/L —       | — P/L —       |
| RIGHT OF WAY                          | — R/W —       | — R/W —       |
| TEMPORARY EASEMENT                    | — PR-T/E —    | — T/E —       |
| PERMANENT EASEMENT                    | — P/E —       | — P/E —       |
| TOWNSHIP AND RANGE SECTION LINE       | — — — — —     | — — — — —     |
| <b>SITE</b>                           |               |               |
| FENCE                                 | — X —         | — X —         |
| MAJOR CONTOUR                         | — 2521 —      | — 2521 —      |
| MINOR CONTOUR                         | — 2521 —      | — 2521 —      |
| GRADE BREAK                           | — GB —        | — GB —        |
| TOP OF BANK                           | — TOB —       | — TOB —       |
| TOE OF SLOPE                          | — TOE —       | — TOE —       |
| CUT LIMITS                            | — — — — —     | — — — — —     |
| FILL LIMITS                           | — — — — —     | — — — — —     |
| DITCH                                 | — — — — —     | — — — — —     |
| STORM SWALE                           | — — — — —     | — — — — —     |
| EDGE OF WATER                         | — — — — —     | — — — — —     |
| HIGH WATER                            | — — — — —     | — — — — —     |
| WETLAND                               | — WET —       | — WET —       |
| WETLAND BOG                           | — BOG —       | — BOG —       |
| WETLAND MARSH                         | — MRSH —      | — MRSH —      |
| WETLAND SWAMP                         | — SWMP —      | — SWMP —      |
| <b>ROADWAY</b>                        |               |               |
| ROAD SHOULDER                         | — — — — —     | — — — — —     |
| ROAD CENTERLINE                       | — — — — —     | — — — — —     |
| ROAD ASPHALT                          | — EP —        | — EP —        |
| ROAD GRAVEL                           | — — — — —     | — — — — —     |
| TOP BACK OF CURB                      | — — — — —     | — — — — —     |
| LIP OF GUTTER                         | — — — — —     | — — — — —     |
| LANDSCAPING LIMITS                    | — LS —        | — LS —        |
| <b>POWER / COMMUNICATIONS</b>         |               |               |
| OVERHEAD POWER                        | — OHP —       | — OHP —       |
| UNDERGROUND POWER                     | — UP —        | — UP —        |
| OVERHEAD TELEPHONE                    | — OHT —       | — OHT —       |
| UNDERGROUND TELEPHONE                 | — UT —        | — UT —        |
| FIBER OPTIC                           | — F/O —       | — F/O —       |
| CABLE TELEVISION                      | — CTV —       | — CTV —       |
| UNDERGROUND POWER, TEL, CABLE TV      | — — — — —     | — P,T,CTV —   |
| UNDERGROUND POWER, TEL, CABLE TV, GAS | — — — — —     | — P,T,CTV,G — |

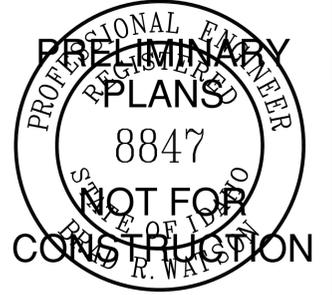
| LINE DESCRIPTION         | PROPOSED LINE | EXISTING LINE |
|--------------------------|---------------|---------------|
| <b>IRRIGATION</b>        |               |               |
| IRRIGATION               | — IRR —       | — IRR —       |
| GRAVITY IRRIGATION       | — GIRR —      | — GIRR —      |
| PRESSURE IRRIGATION      | — PIIR —      | — PIIR —      |
| POTABLE WATER            | — PW —        | — PW —        |
| NON-POTABLE WATER        | — NPW —       | — NPW —       |
| <b>GAS</b>               |               |               |
| NATURAL GAS              | — G —         | — G —         |
| NATURAL GAS SERVICE      | — G G —       | — G G —       |
| HIGH PRESSURE GAS        | — HPG —       | — HPG —       |
| LIQUID GAS               | — LG —        | — LG —        |
| <b>STORM DRAIN</b>       |               |               |
| STORM DRAIN (GENERAL)    | — SD —        | — SD —        |
| STORM DRAIN              | — X*SD —      | — X*SD —      |
| ROOF DRAIN               | — RD —        | — RD —        |
| <b>SANITARY SEWER</b>    |               |               |
| SANITARY SEWER (GENERAL) | — SS —        | — SS —        |
| SANITARY SEWER           | — X*SS —      | — X*SS —      |
| SANITARY SEWER SERVICE   | — SS SS —     | — SS SS —     |
| SEWER FORCE MAIN         | — FM —        | — FM —        |
| <b>WATER</b>             |               |               |
| WATER (GENERAL)          | — W —         | — W —         |
| WATER (SPECIFIED SIZE)   | — X*W —       | — X*W —       |
| WATER SERVICE            | — WS —        | — WS —        |

**ABBREVIATIONS**

|          |                                    |
|----------|------------------------------------|
| AACH     | ADA COUNTY HIGHWAY DISTRICT        |
| APPROX   | APPROXIMATE                        |
| ASP      | ASPHALT                            |
| ASSY     | ASSEMBLY                           |
| >        | ANGLE                              |
| ⊕        | AT (MEASUREMENTS)                  |
| BH       | BORE HOLE                          |
| BLDG     | BUILDING                           |
| BM       | BENCH MARK                         |
| BOR      | BUREAU OF RECLAMATION              |
| BPBC     | BOISE PROJECT BOARD OF CONTROL     |
| BSC      | BITUMINOUS SURFACE COURSE          |
| BSW      | BACK OF SIDEWALK                   |
| BW       | BOTH WAYS                          |
| C        | CHANNEL (STRUCTURAL)               |
| C/L      | CENTER LINE                        |
| CIPP     | CURED IN-PLACE PIPE REHABILITATION |
| CMP      | CORRUGATED METAL PIPE              |
| CO       | CLEANOUT                           |
| CONC     | CONCRETE                           |
| CONT     | CONTINUOUS                         |
| CPLG     | COUPLING                           |
| CU FT    | CUBIC FEET                         |
| CU YD    | CUBIC YARD                         |
| DEG OR ° | DEGREE                             |
| DET      | DETAIL                             |
| DIA OR Ø | DIAMETER                           |
| DIP      | DUCTILE IRON PIPE                  |
| DIST     | DISTRIBUTION                       |
| DWG      | DRAWING                            |

|           |   |
|-----------|---|
| EA        | EACH  |
| EG        | EXISTING GROUND                               |
| ELB       | ELBOW   |
| R         | RADIUS  |
| ELEV      | ELEVATION                                     |
| EW        | EACH WAY                                      |
| EXIST     | EXISTING                                      |
| FG        | FINISH GRADE                                  |
| FH        | FIRE HYDRANT                                  |
| FLG       | FLANGE  |
| FT OR ' " | FEET  |
| GV        | GATE VALVE                                    |
| HORIZ     | HORIZONTAL                                    |
| ID        | INSIDE DIAMETER                               |
| ITD       | IDAHO TRANSPORTATION DEPARTMENT               |
| INV       | INVERT  |
| ISPWC     | IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION |
| IN OR " " | INCH  |
| LB OR #   | POUND   |
| LF        | LINEAL FEET                                   |
| LN        | LINEAL  |
| MAX       | MAXIMUM                                       |
| MIN       | MINIMUM                                       |
| MJ        | MECHANICAL JOINT                              |
| NO OR #   | NUMBER  |
| NMID      | NAMPA & MERIDIAN IRRIGATION DISTRICT          |
| NTP       | NOTICE TO PROCEED                             |
| PE        | POLYETHYLENE                                  |
| P/E       | PERMANENT SEWER EASEMENT                      |
| PC        | POINT OF CURVATURE                            |
| PL        | PLATE   |
| PL        | PROPERTY LINE                                 |

|         |                                 |
|---------|---------------------------------|
| PT      | POINT OF TANGENCY               |
| PVC     | POLYVINYL-CHLORIDE              |
| R       | RADIUS                          |
| RP      | RADIUS POINT                    |
| R&R     | REMOVE & REPLACE                |
| RCP     | REINFORCED CONCRETE PIPE        |
| REM     | REMOVE                          |
| REQ'D   | REQUIRED                        |
| REV     | REVISION                        |
| R/W     | RIGHT-OF-WAY                    |
| S       | SLOPE                           |
| SPEC    | SPECIFICATION                   |
| STA     | STATION                         |
| STD     | STANDARD                        |
| STL     | STEEL                           |
| SST     | STAINLESS STEEL                 |
| SY      | SQUARE YARD                     |
| S/W     | SIDEWALK                        |
| TBC     | TOP BACK OF CURB                |
| TBCE    | TOP BACK OF CURB ELEVATION      |
| T/E     | TEMPORARY CONSTRUCTION EASEMENT |
| TYP     | TYPICAL                         |
| TFC     | TOP FACE OF CONCRETE            |
| W/      | WITH                            |
| W/O     | WITHOUT                         |
| W/REQ'D | WHERE REQUIRED                  |



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| DRAWN: ARB   | SECTION: 11, T3N, R2E     |
| CHECKED: BRW | FILE NO.: 10-22-077_G-003 |

**PUBLIC WORKS DEPARTMENT**  
 150 N. CAPITOL BLVD.  
 BOISE, IDAHO 83702  
 (208) 384-3900

CITY OF BOISE  
ODOR CONTROL

LEGENDS AND  
ABBREVIATIONS

Engineers • Surveyors • Planners  
 SHEET: G-003  
 PROJECT NUMBER:  
 CSP-1085

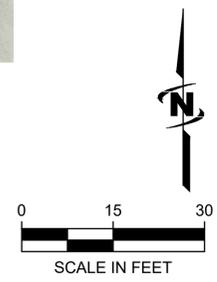


**NOTES:**

- EXISTING UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND GIS RECORDS. FIELD VERIFY ACTUAL UTILITY LOCATIONS.
- PIPE AND FITTINGS SHALL BE HDPE, DIPS, DR32.5, AWWA C906, UNLESS OTHERWISE INDICATED ON PLANS.
- THE EASEMENT FOR THE EXISTING SEWER LINE IS UNKNOWN AND IS ESTIMATED IN THESE PLANS. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY CONSTRUCTION EASEMENTS NEEDED WITH GARDEN CITY.
- PLANTS AND LANDSCAPING SHALL BE PROTECTED WHERE POSSIBLE. ANY PLANTS REMOVED SHALL BE REPLACED AT THE CONCLUSION OF THE PROJECT. COORDINATE WITH GARDEN CITY PARKS DEPARTMENT ON ALL LANDSCAPING RESTORATION.

**KEY NOTES:**

| KEY NOTE | DESCRIPTION   |
|----------|---|
| ①        | EXISTING 48" GRAVITY SEWER PIPE   |
| ②        | 30" HDPE AIR PIPE SLOPED DOWN AT 0.2% TO SEWER MANHOLE 803B   |
| ③        | PROPOSED 20' WIDE UTILITY EASEMENT  |
| ④        | ODOR TREATMENT STRUCTURE  |
| ⑤        | RETAIN AND PROTECT  |
| ⑥        | CONNECT 30" HDPE AIR PIPE TO EXISTING SEWER MANHOLE 803B; REF: DETAIL B1, SHEET C-501.  |
| ⑦        | 16' DOUBLE LEAF SWING GATE  |
| ⑧        | NEW ASPHALT PAVEMENT  |
| ⑨        | ESTIMATED EXISTING SEWER EASEMENT   |
| ⑩        | 30" HDPE 45° BEND   |
| ⑪        | NOT USED  |
| ⑫        | 30" HDPE 22.5° BEND   |
| ⑬        | 6" PVC, SCH 80 CONDUIT WITH WATER AND OXIDANT LINES TO OZONATOR. SEE DETAIL B3, SHEET M-501.  |
| ⑭        | 1" PE WATER SERVICE PIPE, I.P.S. CLASS 200 TO VAPEX UNIT, SEE SHEET M-101   |
| ⑮        | 1" WATER METER AND CONNECTION PER GARDEN CITY DWG NO GC-W-100.  |
| ⑯        | SIDEWALK SURFACE REPAIR; SEE DETAIL A2, SHEET C-501. THE SIDEWALK SHALL BE CUT ALONG EXISTING CONTROL JOINTS FOR FULL PANEL REPLACEMENTS. |
| ⑰        | SOD SURFACE REPAIR; SEE DETAIL A2, SHEET C-501  |
| ⑱        | 4" SEWER SERVICE PER ISPMC SD-511. THE SEWER SERVICE AND CONNECTION SHALL MEET THE REQUIREMENTS OF ISPMC 504.                             |
| ⑲        | TYPE P SURFACE REPAIR PER ACHD STANDARD DRAWING SD-303  |
| ⑳        | REMOVE  |



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 Date Created: 9/29/2024. Location: \\JUB\COMMON\CLIENTS\BOISE\CITY\PROJECTS\10-22-077-SP\DOCUMENTATION\DESIGN\CAD\SHEET\10-22-077\_C-201X.DWG

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| DRAWN: ARB   | SECTION: 11, T3N, R2E      |
| CHECKED: BRW | FILE NO.: 10-22-077_C-201x |

**PUBLIC WORKS DEPARTMENT**  
 150 N. CAPITOL BLVD.  
 BOISE, IDAHO 83702  
 (208) 384-3900

**CITY OF BOISE**  
**ODOR CONTROL**

**SITE PLAN**  
 SHEET: C-201  
 PROJECT NUMBER:  
 CSP-1085

**JUB**  
 Engineers • Surveyors • Planners

**NOTES:**

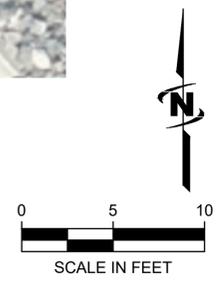
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**KEY NOTES:**

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| ③        | PROPOSED 20' WIDE UTILITY EASEMENT  |
| ④        | ODOR TREATMENT STRUCTURE  |
| ⑤        | RETAIN AND PROTECT  |
| ⑥        | CONNECT 30" HDPE AIR PIPE TO EXISTING SEWER MANHOLE 803B; REF: DETAIL B1, SHEET C-501.  |
| ⑦        | 16' DOUBLE LEAF SWING GATE. SEE S-503.  |
| ⑧        | NEW ASPHALT PAVEMENT  |
| ⑨        | ESTIMATED EXISTING SEWER EASEMENT   |
| ⑩        | 30" HDPE 45° BEND   |
| ⑪        | 30" HDPE 11.25° BEND  |
| ⑫        | 30" HDPE 22.5° BEND   |
| ⑬        | 4" PVC, SCH 80 CONDUIT WITH WATER AND OXIDANT LINES TO OZONATOR. SEE DETAIL B3, SHEET M-501.  |
| ⑭        | 1" PE WATER SERVICE PIPE, I.P.S. CLASS 200 TO VAPEX UNIT, SEE SHEET M-101   |
| ⑮        | 1" WATER METER AND CONNECTION PER GARDEN CITY DWG NO GC-W-100.  |
| ⑯        | SIDEWALK SURFACE REPAIR; SEE DETAIL A2, SHEET C-501. THE SIDEWALK SHALL BE CUT ALONG EXISTING CONTROL JOINTS FOR FULL PANEL REPLACEMENTS. |
| ⑰        | SOD SURFACE REPAIR; SEE DETAIL A2, SHEET C-501  |
| ⑱        | 4" SEWER SERVICE PER ISPMC SD-511. THE SEWER SERVICE AND CONNECTION SHALL MEET THE REQUIREMENTS OF ISPMC 504.                             |
| ⑲        | TYPE P SURFACE REPAIR PER ACHD STANDARD DRAWING SD-303  |
| ⑳        | REMOVE  |
| ㉑        | TRAFFIC RATED 4" CLEANOUT PER ISPMC SD-506A   |
| ㉒        | BACKFLOW DEVICE AND ENCLOSURE. SEE DETAIL B1, SHEET M501.   |



**A ENLARGED SITE PLAN**



Plot Date: 10/20/2023, 12:28 PM. Plotted By: Allen Boehm  
 Date Created: 9/29/2024. Location: \\JUB\COM\CENTRAL\CLIENTS\10\BOISE\CITY PROJECTS\10-22-077 - SRO\COMMUNICATION DESIGN\CAD\SHEET\10-22-077\_C-201X.DWG

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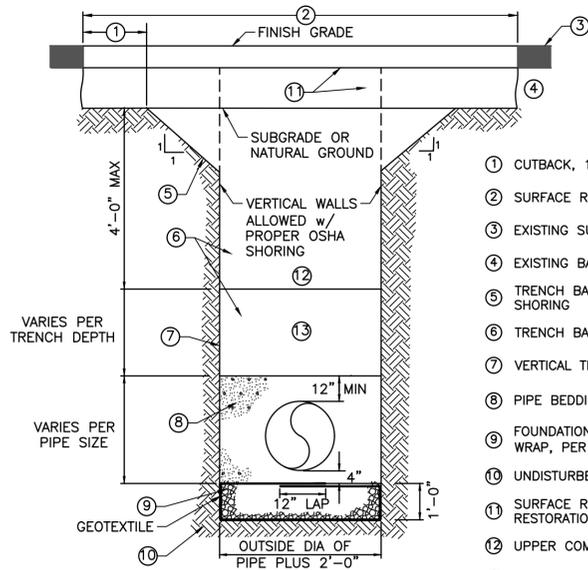
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CITY OF BOISE  
ODOR CONTROL

ENLARGED SITE PLAN

Engineers • Surveyors • Planners  
 SHEET: C-202  
 PROJECT NUMBER:  
 CSP-1085



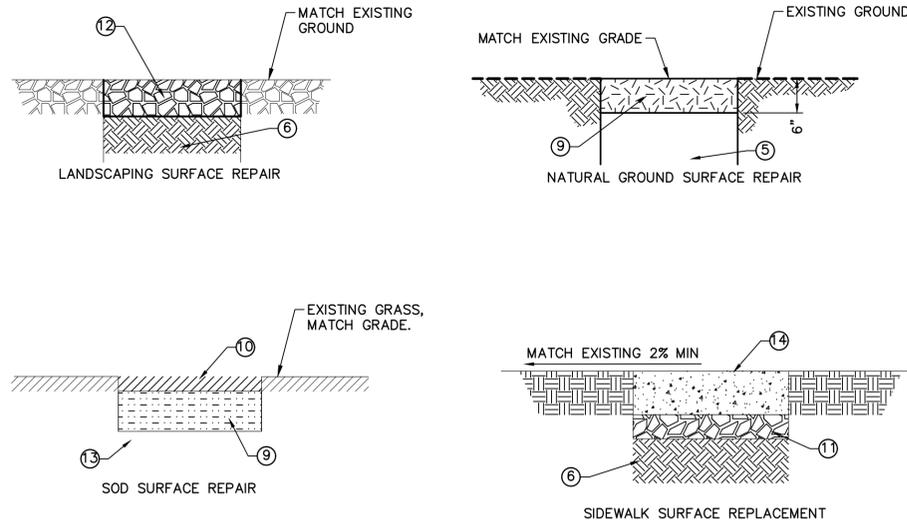
**KEY NOTES:**

- ① CUTBACK, 12".
- ② SURFACE REPAIR WIDTH, 4' MINIMUM.
- ③ EXISTING SURFACE
- ④ EXISTING BASE
- ⑤ TRENCH BACKSLOPE PER O.S.H.A. OR SUITABLE SHORING
- ⑥ TRENCH BACKFILL PER DETAIL A2
- ⑦ VERTICAL TRENCH WALLS SHORING PER OSHA
- ⑧ PIPE BEDDING, CLASS A-1 PER ISPMC 305.
- ⑨ FOUNDATION STABILIZATION WITH GEOTEXTILE WRAP, PER ISPMC 304, IF REQ'D.
- ⑩ UNDISTURBED SOIL (TYP.)
- ⑪ SURFACE REPAIR AND BASE, PER SURFACE RESTORATION DETAIL THIS SHEET
- ⑫ UPPER COMPACTION ZONE
- ⑬ LOWER COMPACTION ZONE

**NOTES:**

- 1. FOUNDATION STABILIZATION REQUIRED WHERE SOFT OR UNSTABLE FOUNDATION IS ENCOUNTERED.
- 2. WHEN MORE THAN ONE PIPE IS PROPOSED TO BE INSTALLED IN A COMMON TRENCH, THERE WILL BE A MINIMUM OF 1 FOOT SEPARATION BETWEEN PIPES.

**A1 TYPICAL TRENCH DETAIL**  
SCALE:NTS



**SURFACE RESTORATION KEY NOTES:**

- ① 8" OF TYPE A1 ¾" MINUS CRUSHED AGGREGATE BASE (MIN) OR MATCH EXISTING BASE, WHICHEVER IS GREATER.
- ② 3" ASPHALT PAVEMENT OR MATCH EXISTING PAVEMENT, WHICHEVER IS GREATER.
- ③ SAWCUT ASPHALT IN NEAT STRAIGHT LINE.
- ④ 12" MIN CUTBACK SMALL STRIPS (LESS THAN 24" IN WIDTH) OF EXISTING ASPHALT PAVEMENT SHALL NOT BE RETAINED. REMOVE AND INCORPORATE INTO PATCH.
- ⑤ COMPACTED TRENCH BACKFILL PER TYPICAL TRENCH DETAIL THIS SHEET. NO COMPACTION IN DISTURBED NON-TRENCH AREAS, AND PORTIONS SHOWN ON PLANS.
- ⑥ COMPACT SUBGRADE TO 95% MAX DENSITY PER ASTM D-698.
- ⑦ NOT USED
- ⑧ NOT USED
- ⑨ REUSED STOCKPILED NATIVE SOIL, COMPACTED SMOOTH.
- ⑩ NEW SOD TO MATCH EXISTING, COORDINATE WITH THE GARDEN CITY PARKS DEPARTMENT
- ⑪ 4" OF ¾" MINUS TYPE I AGGREGATE BASE PER ISPMC SECTION 800
- ⑫ LANDSCAPING ROCK TO MATCH EXISTING. EXISTING LANDSCAPING ROCK TO BE REUSED IF POSSIBLE. ANY NEW LANDSCAPING ROCK SHALL MATCH THE EXISTING ROCK.
- ⑬ REPAIR ALL SPRINKLER LINES DAMAGED DURING TRENCHING AND EXCAVATION (INCIDENTAL).
- ⑭ 5" THICK OR MATCH EXISTING, 3,000 PSI CONCRETE SIDEWALK PER ISPMC 703.

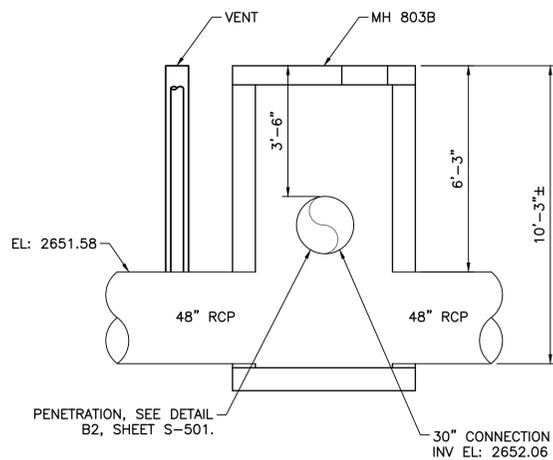
**SURFACE RESTORATION GENERAL NOTES:**

- 1. REFER TO ISPMC SECTION-307 AND THE PROJECT MANUAL FOR MATERIALS AND WORKMANSHIP REQUIREMENTS.
- 2. ALL STREET CUTS WILL REQUIRE RESURFACING BY A PAVING MACHINE OR SPREADER BOX.
- 3. TACK ALL COLD JOINTS SURFACES WITH EMULSION WHICH HAS BEEN "BROKEN" PRIOR TO PATCHING.
- 4. CRUSHED AGGREGATE BASE SHALL BE PLACED USING A MOTOR GRADER.

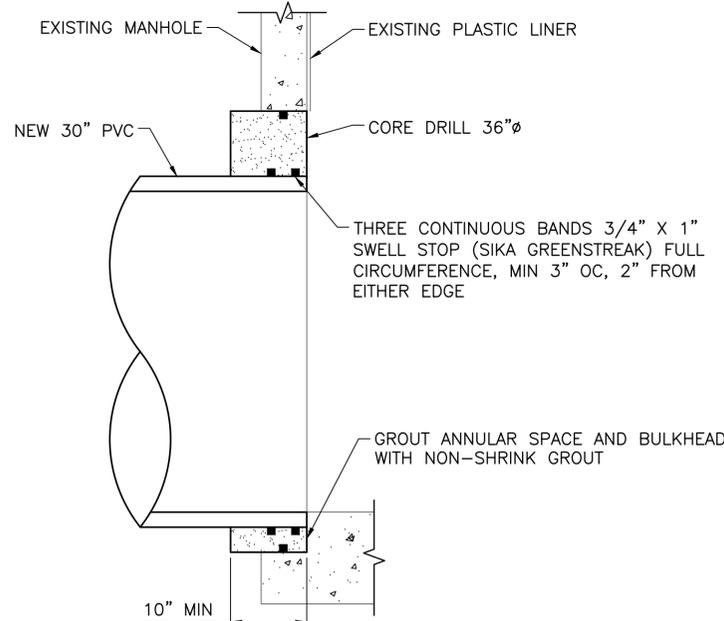
**A2 SURFACE RESTORATION**  
SCALE:NTS

**NOTES:**

- 1. DEPTHS ARE BASED ON THE CITY OF BOISE SOUTH BOISE INTERCEPTOR 43RD STREET TO 29TH STREET RECORD DRAWINGS DATED 11-20-1993.
- 2. PRIOR TO CORE DRILLING STRUCTURE, VERIFY THE AIR LINE WILL HAVE SUFFICIENT DEPTH TO PASS BELOW THE FOOTING OF THE BUILDING.
- 3. MANHOLE 803B MUST REMAIN IN OPERATION FOR THE DURATION OF THE PROJECT. NO CONSTRUCTION DEBRIS SHALL BE ALLOWED TO ENTER THE SEWER.



**B1 MANHOLE CONNECTION**  
SCALE:NTS



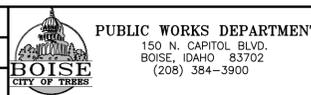
**B2 CONNECTION TO EXISTING MANHOLE**  
SCALE:NTS



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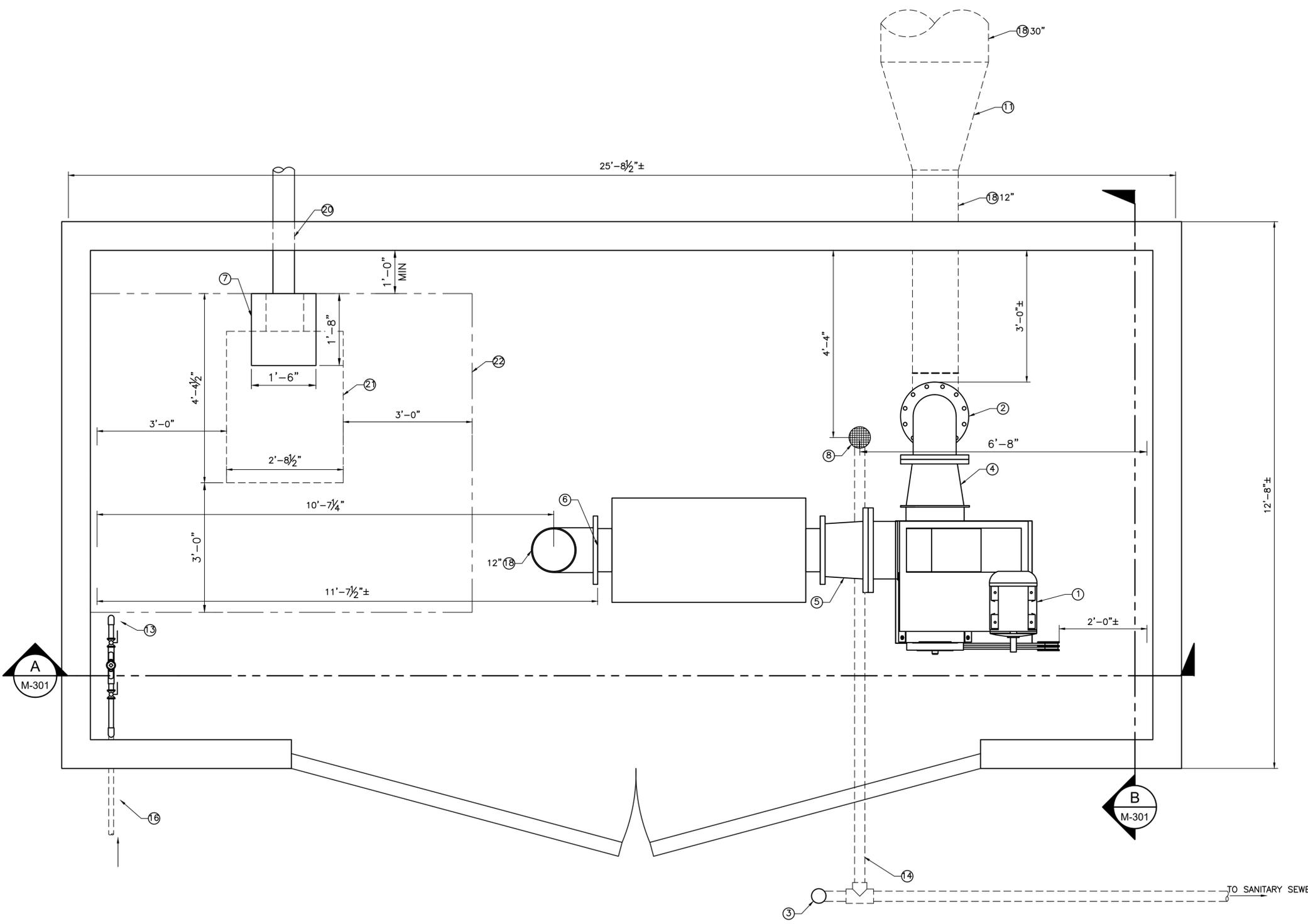


CITY OF BOISE  
ODOR CONTROL

DETAILS  
SHEET: C-501  
PROJECT NUMBER:  
CSP-1085

ENGINEERS • SURVEYORS • PLANNERS

| KEY NOTES |   |
|-----------|---|
| KEY NOTE  | DESCRIPTION   |
| ①         | HARTZELL A03-1-1539C100S4FC03 CENTRIFUGAL FAN RATED FOR 4,000 CFM AT 13.0 IN W.G. FAN SHALL HAVE EXTENDED LUBRICATION LINES, 316 SS SHAFT AND 304 SS DRILLED INLET AND OUTLET FLANGES. FAN SCROLL SHALL HAVE A 1/2" TAP FOR A CONDENSATE DRAIN. |
| ②         | 12" 90-DEGREE HDPE BEND   |
| ③         | TRAFFIC RATED 4" CLEANOUT PER ISPCW SD-506A   |
| ④         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN SUCTION TO 12" DI PIPE  |
| ⑤         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN DISCHARGE TO THE EXHAUST SILENCER   |
| ⑥         | EXHAUST SILENCER HARTZELL RDS MODEL 12VRDS-W13. FINAL LOCATION OF THE EXHAUST SILENCER WILL BE DETERMINED BY THE LENGTH OF THE FLEXIBLE TRANSITION.   |
| ⑦         | VAPEX PICO UNIT   |
| ⑧         | FLOOR DRAIN; SEE DETAIL A3, SHEET M-501.  |
| ⑨         | STANDON MODEL C92 ADJUSTABLE PIPE SADDLE CLAMP SUPPORT OR APPROVED EQUAL  |
| ⑩         | FLOOR PENETRATION AND PIPE SUPPORT, SEE DETAIL A2, SHEET M-501  |
| ⑪         | 12"x30" REDUCER(S) (EQUIVALENT)   |
| ⑫         | EQUIPMENT PAD; SEE DETAIL B2, SHEET S-901. PAD HEIGHT AS REQUIRED TO PROVIDE MINIMUM 12" HEIGHT FOR THE EXHAUST SILENCER  |
| ⑬         | REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. SEE DETAIL B1, SHEET M-501.  |
| ⑭         | 4" SEWER SERVICE  |
| ⑮         | NOT USED  |
| ⑯         | 1" SINGLE WATER SERVICE PER GARDEN CITY STD DETAIL GC-W-100.  |
| ⑰         | NOT USED  |
| ⑱         | HDPE PIPE, SIZE AS INDICATED.   |
| ⑲         | THRUST BLOCK  |
| ⑳         | VAPEX FRESH AIR INTAKE (FOR FUTURE)   |
| ㉑         | POSSIBLE UPGRADE FOOTPRINT (FROM VAPEX PICO TO VAPEX NANO UNIT)   |
| ㉒         | MINIMUM CLEARANCE AREA  |
| ㉓         | 10" NOZZLE ACCESS HOLE  |



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

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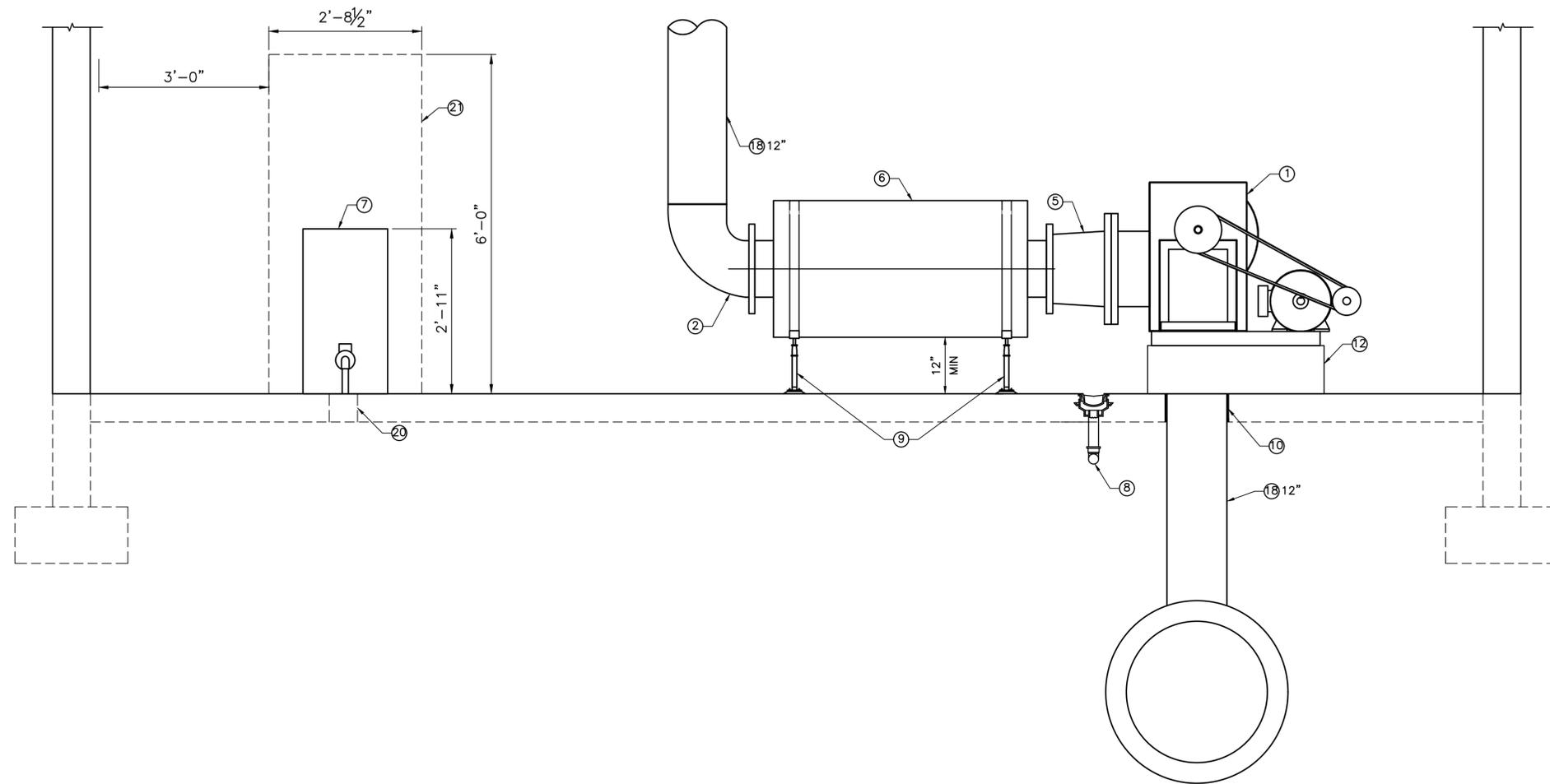
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CITY OF BOISE  
 ODOR CONTROL

MECHANICAL PLAN

**JUB**  
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SHEET: M-101  
 PROJECT NUMBER:  
 CSP-1085



SECTION - A  
SCALE: 3/8"=1'-0"

| KEY NOTES |   |
|-----------|---|
| KEY NOTE  | DESCRIPTION   |
| ①         | HARTZELL A03-1-153BC100S4FCO3 CENTRIFUGAL FAN RATED FOR 4,000 CFM AT 13.0 IN W.G. FAN SHALL HAVE EXTENDED LUBRICATION LINES, 316 SS SHAFT AND 304 SS DRILLED INLET AND OUTLET FLANGES. FAN SCROLL SHALL HAVE A 1/2" TAP FOR A CONDENSATE DRAIN. |
| ②         | 12" 90-DEGREE HDPE BEND   |
| ③         | TRAFFIC RATED 4" CLEANOUT PER ISPPWC SD-506A  |
| ④         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN SUCTION TO 12" DI PIPE  |
| ⑤         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN DISCHARGE TO THE EXHAUST SILENCER   |
| ⑥         | EXHAUST SILENCER HARTZELL RDS MODEL 12VRDS-W13. FINAL LOCATION OF THE EXHAUST SILENCER WILL BE DETERMINED BY THE LENGTH OF THE FLEXIBLE TRANSITION.   |
| ⑦         | VAPEX PICO UNIT   |
| ⑧         | FLOOR DRAIN; SEE DETAIL A3, SHEET M-501.  |
| ⑨         | STANDON MODEL C92 ADJUSTABLE PIPE SADDLE CLAMP SUPPORT OR APPROVED EQUAL  |
| ⑩         | FLOOR PENETRATION AND PIPE SUPPORT, SEE DETAIL A2, SHEET M-501  |
| ⑪         | 12"x30" REDUCER(S) (EQUIVALENT)   |
| ⑫         | EQUIPMENT PAD; SEE DETAIL B2, SHEET S-901. PAD HEIGHT AS REQUIRED TO PROVIDE MINIMUM 12" HEIGHT FOR THE EXHAUST SILENCER  |
| ⑬         | REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. SEE DETAIL B1, SHEET M-501.  |
| ⑭         | 4" SEWER SERVICE  |
| ⑮         | NOT USED  |
| ⑯         | 1" SINGLE WATER SERVICE PER GARDEN CITY STD DETAIL GC-W-100.  |
| ⑰         | NOT USED  |
| ⑱         | HDPE PIPE, SIZE AS INDICATED.   |
| ⑲         | THRUST BLOCK  |
| ⑳         | VAPEX FRESH AIR INTAKE (FOR FUTURE)   |
| ㉑         | POSSIBLE UPGRADE FOOTPRINT (FROM VAPEX PICO TO VAPEX NANO UNIT)   |
| ㉒         | MINIMUM CLEARANCE AREA  |
| ㉓         | 10" NOZZLE ACCESS HOLE  |



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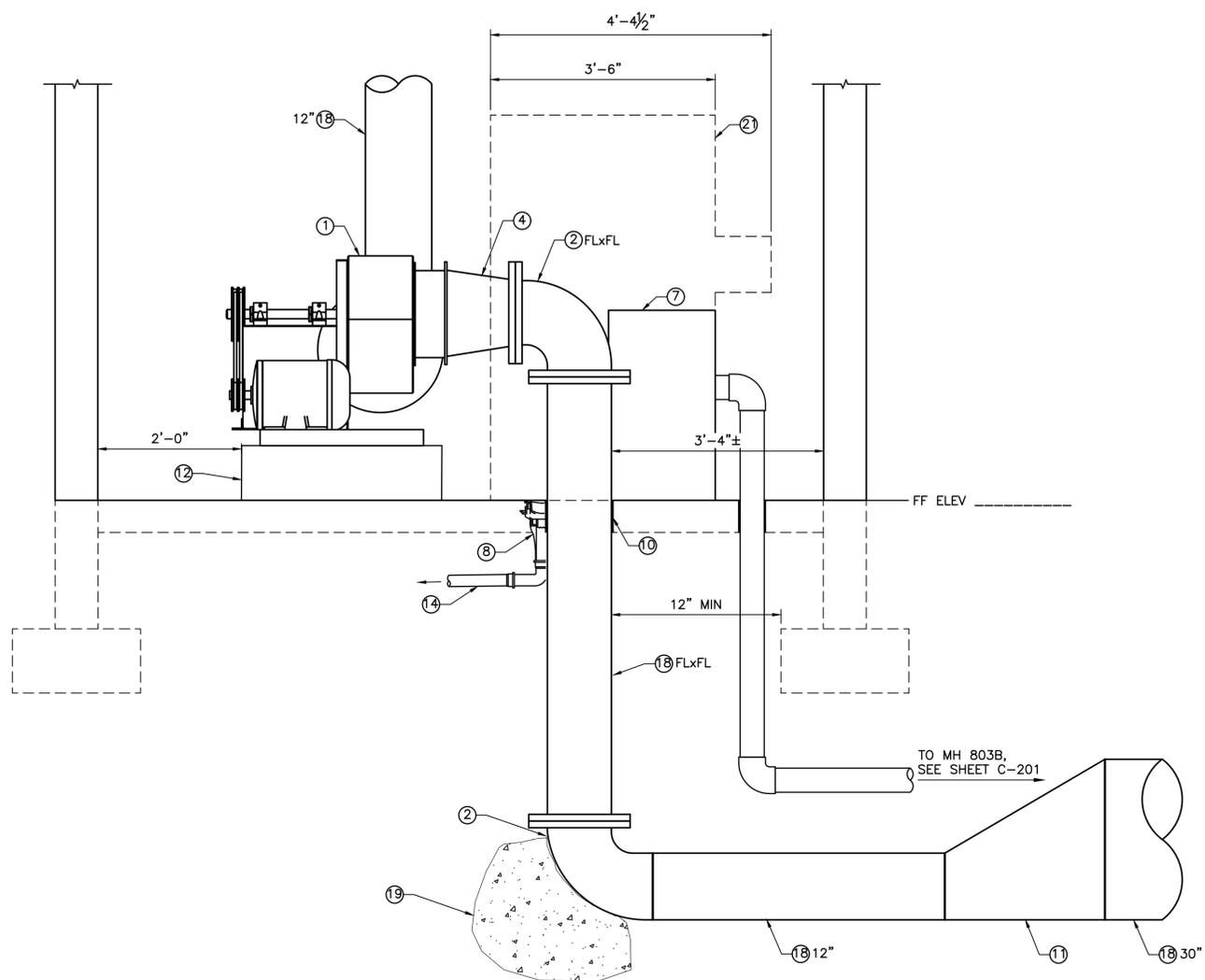
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CITY OF BOISE  
ODOR CONTROL

MECHANICAL SECTION

SHEET: M-301  
PROJECT NUMBER:  
CSP-1085



SECTION - B  
SCALE: 3/8"=1'-0"

| KEY NOTES |   |
|-----------|---|
| KEY NOTE  | DESCRIPTION   |
| ①         | HARTZELL A03-1-153BC100S4FCO3 CENTRIFUGAL FAN RATED FOR 4,000 CFM AT 13.0 IN W.G. FAN SHALL HAVE EXTENDED LUBRICATION LINES, 316 SS SHAFT AND 304 SS DRILLED INLET AND OUTLET FLANGES. FAN SCROLL SHALL HAVE A 1/2" TAP FOR A CONDENSATE DRAIN. |
| ②         | 12" 90-DEGREE HDPE BEND   |
| ③         | TRAFFIC RATED 4" CLEANOUT PER ISPPWC SD-506A  |
| ④         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN SUCTION TO 12" DI PIPE  |
| ⑤         | FLEXIBLE TRANSITION TO BE FABRICATED W/ 316 SS FLANGES AND AN EPDM SLEEVE TO TRANSITION THE FAN DISCHARGE TO THE EXHAUST SILENCER   |
| ⑥         | EXHAUST SILENCER HARTZELL RDS MODEL 12VRDS-W13. FINAL LOCATION OF THE EXHAUST SILENCER WILL BE DETERMINED BY THE LENGTH OF THE FLEXIBLE TRANSITION.   |
| ⑦         | VAPEX PICO UNIT   |
| ⑧         | FLOOR DRAIN; SEE DETAIL A3, SHEET M-501.  |
| ⑨         | STANDON MODEL C92 ADJUSTABLE PIPE SADDLE CLAMP SUPPORT OR APPROVED EQUAL  |
| ⑩         | FLOOR PENETRATION AND PIPE SUPPORT, SEE DETAIL A2, SHEET M-501  |
| ⑪         | 12"x30" REDUCER(S) (EQUIVALENT)   |
| ⑫         | EQUIPMENT PAD; SEE DETAIL B2, SHEET S-901. PAD HEIGHT AS REQUIRED TO PROVIDE MINIMUM 12" HEIGHT FOR THE EXHAUST SILENCER  |
| ⑬         | REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. SEE DETAIL B1, SHEET M-501.  |
| ⑭         | 4" SEWER SERVICE  |
| ⑮         | NOT USED  |
| ⑯         | 1" SINGLE WATER SERVICE PER GARDEN CITY STD DETAIL GC-W-100.  |
| ⑰         | NOT USED  |
| ⑱         | HDPE PIPE, SIZE AS INDICATED.   |
| ⑲         | THRUST BLOCK  |
| ⑳         | VAPEX FRESH AIR INTAKE (FOR FUTURE)   |
| ㉑         | POSSIBLE UPGRADE FOOTPRINT (FROM VAPEX PICO TO VAPEX NANO UNIT)   |
| ㉒         | MINIMUM CLEARANCE AREA  |
| ㉓         | 10" NOZZLE ACCESS HOLE  |



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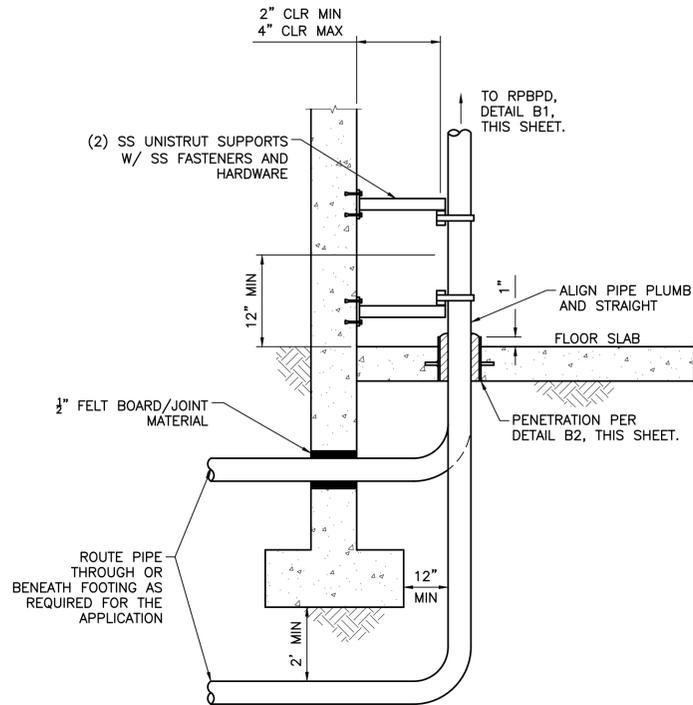
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ODOR CONTROL

MECHANICAL SECTION

SHEET: M-302  
PROJECT NUMBER:  
CSP-1085

**NOTE:**

- POTABLE WATER PIPE PENETRATIONS SHALL BE PER APPLICABLE PLUMBING CODE REQUIREMENTS.
- NO FITTINGS OR JOINTS BENEATH THE SLAB.

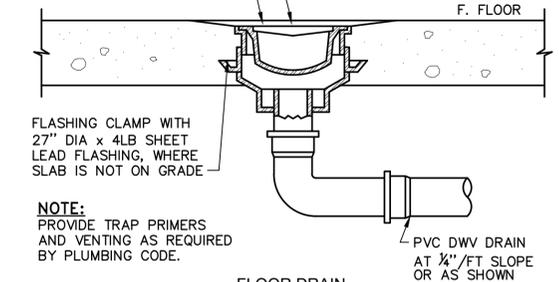


**A1** FLOOR PIPE PENETRATION  
SCALE: NTS

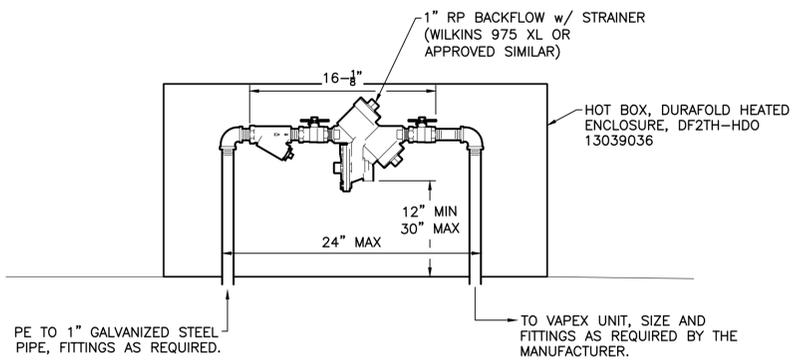
**A2** NOT USED  
SCALE: NTS

SET TOP OF FLOOR DRAIN 1/2" BELOW FL, FLR. SLOPE FLOOR APPROX. 24" DIA. AROUND FLOOR DRAIN

UNLESS OTHERWISE SPECIFIED, FLOOR DRAIN SHALL BE 8" ZURN OR EQUAL WITH NICKEL-BRONZE TOP (IN CONCRETE FINISH USE CAST IRON GRATING)

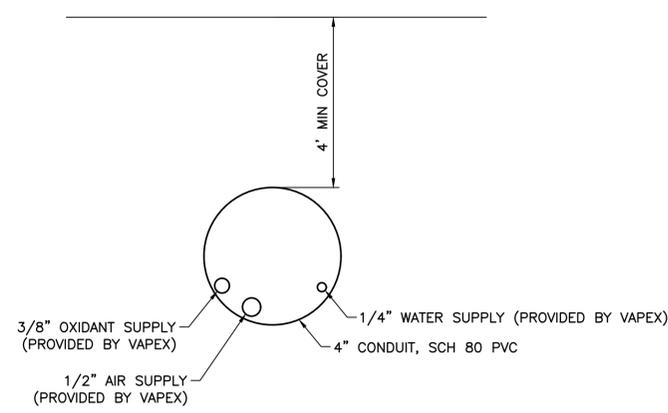


**A3** FLOOR DRAIN AND CLEANOUT IN FINISHED FLOOR  
SCALE: NTS



**B1** REDUCED PRESSURE BACKFLOW PREVENTION DEVICE  
SCALE: NTS

**B2** NOT USED  
SCALE: NTS



**B3** WATER AND OXIDANT CONDUIT DETAIL  
SCALE: NTS



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CITY OF BOISE  
ODOR CONTROL

MECHANICAL DETAILS

  
 Engineers • Surveyors • Planners  
 SHEET: M-501  
 PROJECT NUMBER: CSP-1085

1. GENERAL.
- A. THESE STRUCTURAL NOTES SUPPLEMENT THE WRITTEN SPECIFICATIONS AND PROJECT DRAWINGS.
- B. ANY DISCREPANCY FOUND AMONG THE NOTES, WRITTEN SPECIFICATIONS AND PROJECT DRAWINGS SHALL BE REPORTED TO THE PROJECT ENGINEER FOR CORRECTION AND/OR CLARIFICATION.
- C. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONSTRUCTION MATERIAL TYPES, DIMENSIONS, ELEVATIONS AND CONDITIONS. HE SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS AND IN THE FIELD PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. ANY DISCREPANCY SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
- D. THE CONTRACTOR IS RESPONSIBLE FOR ALL BRACING, TEMPORARY SHORING, WATER AND OTHER ENVIRONMENTAL CONTROLS REQUIRED DURING CONSTRUCTION TO ENSURE THE STABILITY AND SAFETY OF ALL CONSTRUCTION UNTIL COMPLETE AND SELF-SUPPORTING.
- E. ENGINEER/OWNER WILL BE RESPONSIBLE FOR OBTAINING BUILDING PERMIT.
- F. SPECIAL INSPECTIONS ARE BY OWNER AND WILL BE COORDINATED BY CONTRACTOR.
- G. COORDINATE LOCKS, MAKE SURE CYLINDERS ARE COMPATIBLE.

2. CODES.
- A. INTERNATIONAL BUILDING CODE, IBC 2021 EDITION/ASCE 7.
- B. AMERICAN CONCRETE INSTITUTE, ACI 318-14, STANDARD BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- C. AMERICAN CONCRETE INSTITUTE, ACI 530, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES, CURRENT EDITION.
- D. AMERICAN CONCRETE INSTITUTE, ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE.
- E. AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISC 360, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS; CURRENT EDITION.
- F. AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISC 341, SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS; CURRENT EDITION.
- G. AMERICAN WELDING SOCIETY, AWS D1.1 CURRENT EDITION, STRUCTURAL WELDING CODE

3. SPECIAL INSPECTIONS. SPECIAL INSPECTIONS PER IBC CHAPTER 17 ARE REQUIRED FOR THE FOLLOWING ITEMS: C INDICATES CONTINUOUS, P INDICATES PERIODIC.

|  |           |
|--|-----------|
| A. SOILS, BY GEOTECHNICAL ENGINEER.  | FREQUENCY |
| - SITE PREPARATION:  | P         |
| - FILL MATERIAL VERIFICATION:  | C         |
| - FILL PLACEMENT AND COMPACTION:   | C         |
| - LIFT THICKNESS:  | C         |
| B. CONCRETE.   |           |
| - REINFORCEMENT PLACEMENT:   | P         |
| - PLACEMENT OF CAST-IN-PLACE ANCHORS:  | P         |
| - VERIFICATION OF USE OF REQUIRED MIX:   | P         |
| - CONCRETE PLACEMENT:  | C         |
| - VERIFICATION OF IN-SITU CONCRETE PRIOR TO REMOVAL OF FORMS AND SHORES FROM ELEVATED BEAMS AND SLABS            | P         |
| C. POST INSTALLED CONCRETE ANCHORS.  |           |
| - INSTALLATION:  | C         |
| D. STRUCTURAL MASONRY-LEVEL B SPECIAL INSPECTION   |           |
| - VERIFICATION OF SITE PROPORTIONED MORTAR & GROUT:  | P         |
| - OBSERVATION OF PRISM PREPARATION:  | C         |
| - PLACEMENT OF MASONRY UNITS & MORTAR JOINTS:  | P         |
| - VERIFICATION OF SIZE AND LOCATION OF STRUCTURAL ELEMENTS:  | P         |
| - ANCHORAGE OF MASONRY TO FRAMES, STRUCTURAL MEMBERS AND DIAPHRAGMS INCLUDING TYPE, SIZE AND LOCATION OF ANCHORS | P         |
| - TYPE, GRADE AND SIZE OF REINFORCING STEEL:   | P         |
| - REINFORCING STEEL AND CONNECTOR PLACEMENT:   | P         |
| - COLD/HOT WEATHER MASONRY PROTECTION:   | P         |
| - VERIFY USE OF GROUT MIX DESIGN:  | P         |
| - VERIFY GROUT SPACE IS CLEAN PRIOR TO GROUTING:   | C         |
| - GROUT PLACEMENT:   | C         |
| - F'M VERIFICATION/GROUT STRENGTH PER ASTM C1019   | P         |
| E. STRUCTURAL STEEL  |           |
| - FABRICATION OF STRUCTURAL ELEMENTS:  | P         |
| II MATERIAL VERIFICATION OF STRUCTURAL STEEL:  | P         |
| III MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS:  | P         |
| IV MATERIAL VERIFICATION OF ANCHOR BOLTS & THREADED RODS:  | P         |
| V MATERIAL VERIFICATION OF WELD FILLER MATERIALS:  | P         |
| VI COMPLETE AND PARTIAL PENETRATION GROOVE WELDS:  | C         |
| VIII MULTI-PASS FILLET WELDS:  | C         |
| IX SINGLE-PASS FILLET WELDS GREATER THAN 5/16":  | C         |
| X SINGLE-PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16":  | P         |
| XI INSTALLATION OF ROOF DECKING:   | P         |
| XIII WELDING SHEAR STUDS:  | P         |
| XIV WELDING PERFORMED IN THE SHOP OF AN APPROVED FABRICATOR SHALL NOT REQUIRE SPECIAL INSPECTION                 |           |

- F. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BY OWNER/OWNER'S REPRESENTATIVE.

4. SUBMITTALS.

- A. SUBMIT REQUIRED COPIES, ONE (1) MINIMUM, OF PRODUCT OR MATERIAL DESIGN INFORMATION TO THE ENGINEER FOR REVIEW FOR THE FOLLOWING ITEMS:
- CONCRETE MIX DESIGNS AND ADMIXTURES.
  - NON-SHRINK GROUT.
  - EPOXY ANCHORS.
  - STRUCTURAL MASONRY GROUT AND MORTAR MIX DESIGNS.
  - STRUCTURAL CONCRETE BLOCK.
  - METAL ROOF DECKING.

5. SHOP DRAWINGS:

- A. SUBMIT REQUIRED COPIES OF SHOP DRAWINGS, ONE (1) MINIMUM, TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THE FOLLOWING ITEMS:
- REINFORCING STEEL FOR ALL CONCRETE.
  - REINFORCING STEEL FOR MASONRY WALLS.
  - STRUCTURAL STEEL.
  - MISCELLANEOUS STEEL FABRICATIONS

6. DESIGN CRITERIA.

- A. OCCUPANCY OR USE; IBC 2021, F-2: LOW HAZARD FACTORY, INDUSTRIAL RISK CATEGORY II
- B. LIVE LOADS:
- ROOF LIVE LOAD: 25 PSF, MINIMUM (SNOW)
  - GROUND SNOW LOAD, PG: 20 PSF
- C. DEAD LOADS:
- ROOF DEAD LOAD: 15 PSF
- D. WIND:
- BASIC WIND SPEED: 102 MPH
  - SITE EXPOSURE: B
  - IMPORTANCE FACTOR: 1.0
- E. SEISMIC:
- EARTHQUAKE SPECTRAL RESPONSE ACCELERATION:
    - (1) SHORT PERIOD, SS: 30%
    - (2) 1-SECOND, S1: 10%
    - (3) SDS= .317 R=3.5 INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
    - (4) CS= 0.09 VBASE=1.47 KIPS STRENGTH DESIGN
  - IMPORTANCE FACTOR, IE: 1.00
  - SOIL CLASS: D
  - SDC=C
- F. MECHANICAL LOADS: REFER TO FRAMING PLANS AND MECHANICAL PLANS FOR SPECIAL MECHANICAL EQUIPMENT LOADS.

7. FOUNDATIONS.

- A. ALL FOOTINGS TO BE PLACED ON FIRM UNDISTURBED, INORGANIC MATERIAL. PROOF ROLL SUB-GRADE PRIOR TO PLACING CONCRETE WHERE THE MATERIAL HAS BEEN DISTURBED BY THE EXCAVATING EQUIPMENT.
- B. ALL PIERS AND FOOTINGS OUTSIDE OR AT THE PERIMETER OF THE STRUCTURE, OR IN OTHER UNHEATED AREAS SHALL BE SET TO A DEPTH OF AT LEAST 24-IN. BELOW FINISH GRADE, UNLESS OTHERWISE NOTED ON THE PLANS.
- C. ALL FOUNDATIONS AND RETAINING WALLS BELOW FINISH GRADE SHALL RECEIVE AN APPROVED DAMP-PROOF COATING. FOUNDATION WALLS BELOW MAXIMUM ANTICIPATED GROUND WATER LEVELS SHALL RECEIVE AN APPROVED WATER-PROOF COATING; EXTEND WATER-PROOFING TO A MINIMUM OF 1'-0" ABOVE THE MAXIMUM ANTICIPATED GROUND WATER LEVEL.
- D. ALLOWABLE BEARING PRESSURE FOR ALL FOOTINGS QA = 1500 PSF
- E. LOCAL AREAS OF SOFT AND/OR UNACCEPTABLE MATERIAL ENCOUNTERED AT BOTTOM OF FOOTING ELEVATIONS INDICATED ON THE PLANS MUST BE OVER-EXCAVATED AND BROUGHT UP TO DESIGN GRADE WITH COMPACTED STRUCTURAL FILL OR LEAN CONCRETE FILL.
- F. ALL STRUCTURAL FILL AND/OR BACKFILL SHALL BE GRANULAR, FREE DRAINING, MATERIAL; UNIFIED SOILS CLASSIFICATION GW, GP, GM, OR SW; MAXIMUM AGGREGATE SIZE OF 3-IN. AND NO MORE THAN 7% PASSING A NUMBER 200 SIEVE. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6-IN. IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557.
- G. DESIGN FOR THE MITIGATION OF SUBSURFACE WATER FLOW AND/OR PERCHED WATER TABLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- H. AS INDICATED ON THE PLANS ALL EXCAVATED AREAS UNDERNEATH CONCRETE STRUCTURES SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL (CDF) OTHERWISE CALLED CONTROLLED LOW STRENGTH MATERIAL (CLSM). CDF SHALL BE A MIXTURE OF CEMENT, FINE AND COARSE AGGREGATE, FLY PROOF ROLL THE SUB AND ADMIXTURES FORMULATED TO BE FLOWABLE AND SELF-CONSOLIDATING WITH A NET 28 DAY COMPRESSIVE STRENGTH OF 200 TO 300 PSI.
- I. THE ENGINEER SHALL BE NOTIFIED IN WRITING IF ANY GROUND WATER, CLAY TYPE SOILS, DEBRIS OR UNCONSOLIDATED MATERIALS ARE ENCOUNTERED DURING EXCAVATIONS FOR FOUNDATIONS.

8. STRUCTURAL MATERIALS.

- A. STRUCTURAL STEEL:
- W & WT SHAPES: ASTM A992 GRADE 50, FY=50 KSI.
  - M & S SHAPES: ASTM A36, FY=36 KSI.
  - PLATES, BARS, CHANNELS & ANGLES: ASTM A36, FY=36 KSI.
  - STEEL PIPE: ASTM A53 GRADE B, FY=35 KSI.
  - SQUARE, RECTANGULAR HSS, STEEL TUBING: ASTM A500 GRADE B, FY=46 KSI.
- B. STRUCTURAL BOLTS: HIGH STRENGTH BOLTS SHALL BE ASTM A325, TYPE 1. NUTS FOR HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A563, GRADE DH, HEAVY HEX.
- C. ANCHOR RODS: ANCHOR RODS (BOLTS SET INTO CONCRETE) SHALL BE ASTM F1554, FY=36 KSI. NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A563, GRADE A, HEAVY HEX.
- D. THREADED STEEL RODS: THREADED STEEL RODS SHALL CONFORM TO ASTM A36, FY=36 KSI. NUTS FOR THREADED RODS SHALL CONFORM TO ASTM A563, GRADE A, HEAVY HEX.
- E. WASHERS: ALL WASHERS SHALL CONFORM TO ASTM F436.
- F. BOLT PLACEMENT: ALL BOLTS SHALL BE ON MEMBER STANDARD GAGE LINES EXCEPT AS NOTED OTHERWISE.
- G. CONCRETE: CONCRETE MIX DESIGNS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, AND BE PROPORTIONED AS FOLLOWS:
- (1) EXTERIOR SLABS ON GRADE: F'C = 4,000 PSI, ABSOLUTE WATER-CEMENT RATIO BY WEIGHT = 0.45, AIR CONTENT = 6 %, MIN ±1.5% 470 LB CEMENT/ CY.
  - (2) FOOTINGS/FOUNDATION WALLS: F'C = 4,000 PSI, ABSOLUTE WATER-CEMENT RATIO BY WEIGHT = 0.45, AIR CONTENT = 6 % MIN. ±1.5% 470 LB CEMENT/ CY.
  - A WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, USED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS, SHALL BE INCORPORATED IN ALL CONCRETE MIX DESIGNS. AT CONTRACTOR'S OPTION, A HIGH-RANGE WATER-REDUCING (HRWR) ADMIXTURE CONFORMING TO ASTM C494, TYPE F OR G, MAY BE USED PROVIDED THE TOTAL SLUMP IS LESS THAN 10".
  - HIGHER WATER-CEMENT RATIOS THAN SHOWN ABOVE MAY BE USED IF SUBSTANTIATED IN ACCORDANCE WITH ACI 318-89, CHAPTER 5.
  - FLY-ASH CONFORMING TO ASTM C618 TYPE F OR C, MAY REPLACE UP TO 20% OF THE CEMENT CONTENT, PROVIDED THAT THE MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.
  - CEMENT: ASTM C595 TYPE 1L
  - WATER: CLEAN & POTABLE.
  - AIR ENTRAINING AGENT: ASTM C260.
  - AGGREGATE: ¾" MAXIMUM AGGREGATE PER ASTM C33.
  - MIX PROPORTIONING: ACI 211.1 AND 350R.
- H. MASONRY: THE MASONRY ASSEMBLY SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI. ASSEMBLY SHALL BE VERIFIED PER IBC STANDARDS. (LEVEL B SPECIAL INSPECTION)
- I. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60; #3 BARS MAY BE GRADE 40.
- J. REINFORCING STEEL TO BE WELDED: ALL REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60, LOW-ALLOY, DEFORMED REINFORCING STEEL.
- K. ROOF SHEATHING: ALL ROOF SHEATHING SHALL BE 5/8" NOMINAL, EXTERIOR APA RATED SHEATHING {40/20}
- L. NON-SHRINK GROUT: ALL NON-SHRINK GROUT NOTED ON THE PLANS SHALL BE NON-SHRINK, NON-METALLIC GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7,000 PSI.
- M. EPOXY SET BOLTS & REBAR: BOLTS AND REINFORCING STEEL BARS NOTED ON THE PLANS AS "EPOXY SET BOLTS OR REBAR" SHALL BE HILTI HIT HY-200 SYSTEM; SIZE AND EMBEDMENT AS NOTED ON THE DRAWINGS, INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS; OR AN APPROVED EQUAL.

9. CONCRETE DETAILS.

- A. CONCRETE WORK SHALL CONFORM TO CHAPTER 19 OF THE INTERNATIONAL BUILDING CODE.
- B. ALL CONCRETE SURFACES SHALL BE CURED PER THE SPECIFICATIONS AND IN CONFORMANCE WITH ACI 308.1-98.
- C. FORMWORK FOR CONCRETE SHALL CONFORM TO ACI 347R-94, GUIDE TO FORMWORK FOR CONCRETE. TOLERANCES FOR FINISHED CONCRETE SURFACES SHALL MEET THE FOLLOWING REQUIREMENTS, CLASS OF SURFACE IS PER TABLE 3.4:
- FOOTINGS: CLASS C
  - FOUNDATION WALLS: CLASS B
  - OTHER ABOVE-GRADE CONCRETE: CLASS A
- D. IN NO CASE SHALL THE TOLERANCE FOR FINISHED CONCRETE SURFACES EXCEED THE FOLLOWING VALUES AS MEASURED FROM NEAT PLAN LINES AND FINISHED GRADES:
- FOOTINGS: +/- 3/4 IN VERTICAL, +/- 1IN HORIZONTAL.
  - FOUNDATION WALLS: +/- 3/8-IN VERTICAL, +/- 1/2-IN HORIZONTAL.
  - OTHER ABOVE-GRADE CONCRETE: +/- 1/4-IN VERTICAL, +/-3/8-IN HORIZONTAL.
- E. UNLESS NOTED ELSEWHERE ON THE DRAWINGS, ALL REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER:
- EXTERIOR SLAB & WALL SURFACES: 1-1/2 IN
  - CONCRETE ON GRADE: 3 IN.

10. STRUCTURAL MASONRY REQUIREMENTS.

- A. CONCRETE MASONRY UNITS: ALL CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C-90, GRADE N, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2,800 PSI F'M = 2,000 PSI. USE MEDIUM WEIGHT CMU UNITS.
- B. ALL BLOCK SHALL BE LAID UP WITH A STANDARD RUNNING BOND UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
- C. MORTAR: ALL MORTAR FOR USE WITH STRUCTURAL MASONRY UNITS SHALL CONFORM TO ASTM C270, CLASS S AND HAVE A MINIMUM 28-DAY STRENGTH OF 1,800 PSI.
- D. GROUT: ALL GROUT FOR USE WITH STRUCTURAL MASONRY UNITS SHALL CONFORM TO ASTM C476 AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI.
- E. CELLS: FILL ALL CELLS CONTAINING REINFORCING STEEL AND AS DIRECTED ON THE DRAWINGS WITH GROUT IN LIFTS NOT TO EXCEED 5'-0" IN HEIGHT.
- F. BOND BEAMS: ALL BOND BEAMS SHALL BE GROUTED SOLID TO A MINIMUM HEIGHT OF 8 INCHES. BOND BEAMS WITH TWO (2) #5 BARS HORIZONTALLY SHALL BE PROVIDED AT ALL FLOOR AND ROOF LINES AND AT THE TOP OF WALLS. PROVIDE A BOND BEAM WITH TWO (2) #5 BARS HORIZONTALLY ABOVE AND BELOW ALL OPENINGS, AND EXTEND THESE BARS 2'-0" PAST THE OPENING EDGE. PROVIDE FULL HEIGHT VERTICAL REINFORCEMENT, MATCHING TYPICAL VERTICAL REINFORCING, EACH SIDE OF OPENINGS, AT WALL ENDS AND INTERSECTIONS.
- G. REINFORCING: ALL REINFORCING STEEL SHALL BE IN PLACE AND SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING WITH WIRE POSITIONERS OR OTHER SUITABLE DEVICES AT TOPS AND BOTTOMS AND INTERVALS NOT EXCEEDING 192 BAR DIAMETERS NOR 10'-FEET.
- H. ANCHOR BOLTS: ANCHOR BOLTS SHALL BE ACCURATELY SET WITH TEMPLATES OR BY APPROVED EQUIVALENT MEANS AND HELD IN PLACE TO PREVENT MOVEMENT. NO WET SET.
- I. LAPS: WHERE BARS ARE NOT CONTINUOUS, LAP ALL VERTICAL BARS A MINIMUM OF 48-BAR DIAMETERS AND ALL HORIZONTAL BARS A MINIMUM OF 32-BAR DIAMETERS.
- J. BAR PLACEMENT: WHERE ONE VERTICAL BAR IS CALLED FOR IN EACH VERTICAL CORE, THE BAR IS TO BE PLACED IN THE CENTER OF THE MASONRY CORE. WHERE TWO VERTICAL BARS ARE CALLED FOR, THEY SHALL BE PLACED NEAR EACH WALL FACE WITH 1/5-INCH OF CLEARANCE FOR FINE GROUT AND 1/2" OF CLEARANCE FOR COURSE GROUT.
- K. FOUNDATION DOWELS: IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PLACEMENT OF DOWELS PROJECTING FROM CONCRETE FOUNDATIONS INTO REINFORCED MASONRY OR BRICK WALLS.
- L. SPECIAL INSPECTION REQUIRED FOR ALL MASONRY.

11. MECHANICAL OPENINGS.

- A. MECHANICAL OPENINGS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS FOR REFERENCE ONLY; REFER TO MECHANICAL PLANS FOR SIZE AND LOCATIONS.
- B. OPENINGS THROUGH CONCRETE OR MASONRY WALLS GREATER THAN 6-INCH SQUARE OR 8-INCH ROUND SHALL BE REINFORCED WITH A MINIMUM OF 1-#5 BAR, EACH OF FOUR SIDES, EXTENDING 24" PAST THE OPENING EDGE. IN MASONRY WALLS, THE BARS SHALL BE PLACED IN SOLID GROUTED CORES.
- C. OPENINGS THROUGH FRAMED WALLS SHALL BE SOLIDLY BLOCKED ON ALL FOUR SIDES WITH FULL HEIGHT STUDS AND TOP AND BOTTOM BLOCKING. PROVIDE A HEADER MEMBER ACROSS THE OPENING PER THE TYPICAL DETAILS WHERE BEARING STUDS ARE INTERRUPTED BY THE OPENING.

12. WELDING OF STRUCTURAL STEEL.

- A. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT AWS STRUCTURAL WELDING CODE D1.1.
- B. WELD METAL: FEXX=70 KSI, TYPICAL UNLESS OTHERWISE NOTED OR REQUIRED BY AWS.
- C. ALL WELDERS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING AGENCY.
- D. QUALIFICATION OF WELDERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR STANDARD QUALIFICATION PROCEDURE OF THE AWS.

13. STEEL ROOF DECKING & CONNECTIONS.

- A. METAL DECKING CONNECTIONS AS INDICATED ARE SYMMETRICAL THROUGHOUT THE ROOF WITH THE DECKING WELDED TO ALL SUPPORTING BEAMS, JOISTS AND WALLS.
- B. ATTACH ALL ROOF DECKING AS FOLLOWS:
- I. TO ALL SUPPORTING MEMBERS (36/ 4) & DIAPHRAGM BOUNDARIES USE:
- (a) 5/8-IN. DIAMETER PUDDLE WELDS AT 12-IN. O.C.
  - (b) #12 SELF-DRILLING SCREWS @ 12" O.C.
  - (c) HILTI X-HSN 24 METAL DECK FASTENERS @ 12" O.C.
  - (d) PNEUTEK SDK61 FASTENERS @ 12" O.C.
- II FASTEN SIDE-LAPS WITH:
- (A) #10 TEK SCREWS @ 12-IN. O.C. (FOR NESTABLE LAPS ONLY)
  - (b) BUTTON PUNCH @ 12" O.C. (FOR STANDING SEAM SIDE LAPS)
  - (c) DELTAGRIP SIDE SEAM ATTACHMENTS @ 12" O.C.
- C. LAP ALL ROOF DECKING A MINIMUM OF 2" OVER SUPPORTS.
- D. STEEL ROOF DECKING: ALL STEEL ROOF DECKING SHALL BE FABRICATED FROM ASTM A653 STEEL, FY=33 KSI, CLASS G-60 COATING. DECKING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
- ROOF: DEPTH = 1.5"; TYPE ASC-36, 22 GAGE, IX = .163 IN<sup>4</sup>, SX = .187 IN<sup>3</sup>

14. COATING OF METALS.

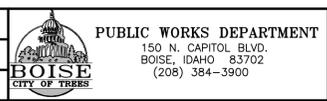
- A. ALL STRUCTURAL AND MISCELLANEOUS METALS SHALL BE PROTECTED FROM CORROSION WITH ONE OF THE FOLLOWING SYSTEMS:
- i STEEL:
    - (a) HOT-DIP GALVANIZED STEEL.
    - (b) PAINTED
  - ii STRUCTURAL STEEL INCLUDES HOT-ROLLED STEEL FRAMING, BRACING, STEEL BAR JOISTS AND GIRDETS.
  - iii MISCELLANEOUS STEEL INCLUDES METAL STAIRS, WALKWAYS, GRATED FLOORS AND SUPPORTS, AND METAL RAILINGS AND GUARD RAILS.
  - iv REFER TO OTHER SECTIONS FOR COATING REQUIREMENTS FOR ALL EQUIPMENT, PIPING, MECHANICAL, ELECTRICAL, ARCHITECTURAL AND SUBMERGED METAL ITEMS.
- B. PAINTING OF STEEL SHALL BE IN CONFORMANCE WITH THE SOCIETY FOR PROTECTIVE COATINGS, SSPC, LATEST RECOMMENDATIONS.
- C. FOR METAL IN A NON-CORROSIVE ENVIRONMENT:
- i SURFACES PREPARATION:
    - (a) SSPC-SP1 SOLVENT CLEANING.
    - (b) SSPC-SP6 COMMERCIAL BLAST CLEANING.
  - ii COATINGS.
    - (a) PRIMER: POLYAMIDE EPOXY, 3.0 TO 4.0 MDFT
    - (b) FINISH COAT: ACRYLIC POLYURETHANE, 2.0 TO 3.0 MDFT.
- D. COLORS SHALL BE AS APPROVED BY THE PROJECT ENGINEER OR OWNER.
- E. SUBMIT COLOR CHIPS TO THE PROJECT ENGINEER OR OWNER FOR THEIR APPROVAL PRIOR TO ORDERING MATERIALS.



Plot Date: 10/20/2025, 12:28 PM. Plotted By: Alan Behm. Location: \\JUB-COM\CENTRAL\CLIENTS\BOISE\CITY\PROJECTS\10-22-077-SPB\DOCUMENTATION\DESIGN\CAD\SHEET\_10-22-077\_S-001.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
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| DESIGNED: RSM | DATE: 2023                |
| DRAWN: ARB    | SECTION: 11, T3N, R2E     |
| CHECKED: BRW  | FILE NO.: 10-22-077_S-001 |



CITY OF BOISE  
ODOR CONTROL

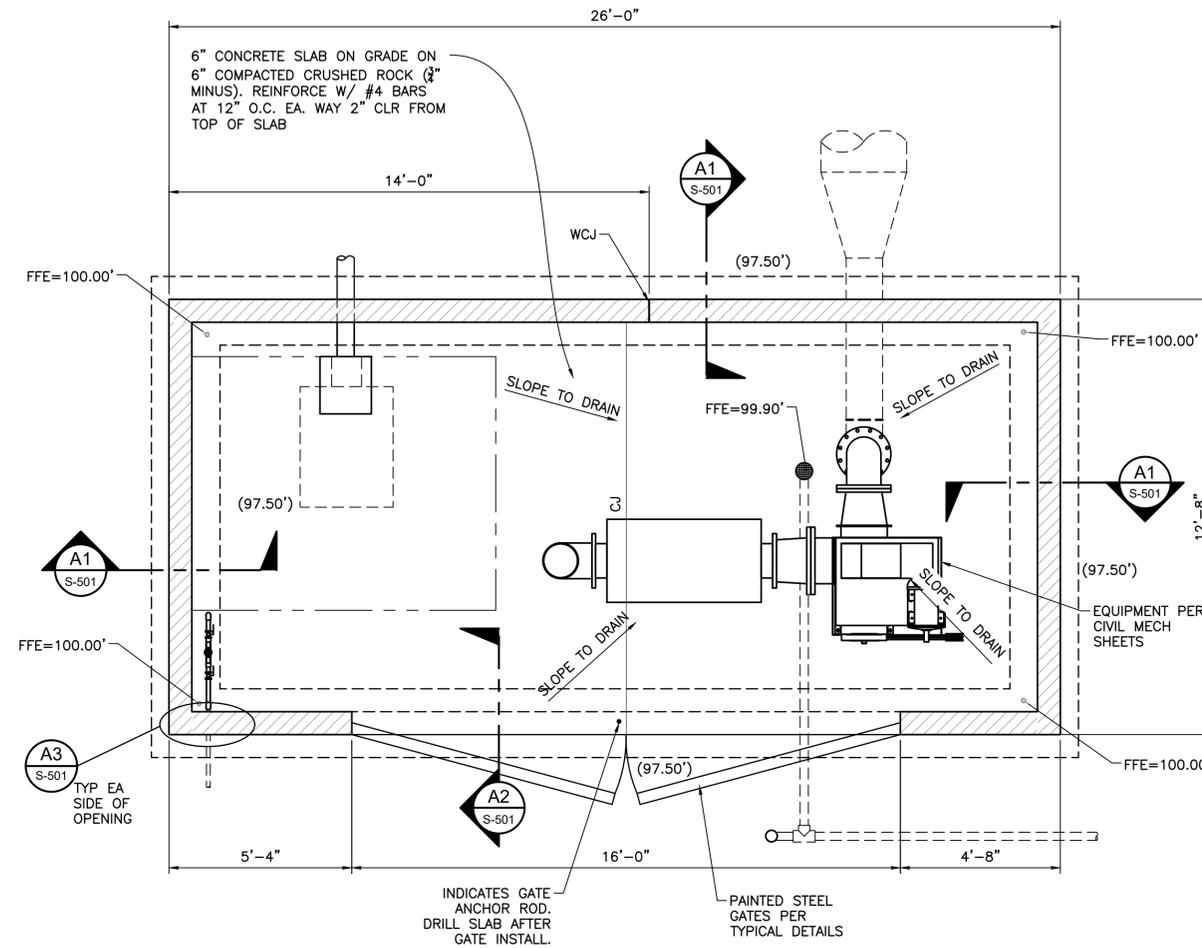
GENERAL STRUCTURAL  
NOTES

SHEET: S-001  
PROJECT NUMBER:  
CSP-1085



**FOUNDATION PLAN NOTES**

- COORDINATE & VERIFY ALL DIMENSIONS WITH CIVIL AND EQUIPMENT PLANS.
- SEE SHEETS S-001 & S-002 FOR THE GENERAL STRUCTURAL NOTES REQUIREMENTS.
- SEE SHEETS S-901 THROUGH S-903 FOR TYPICAL STRUCTURAL CONSTRUCTION DETAILS.
- (XXXX.XX') INDICATES (MIN.) BOTTOM OF FOOTING ELEVATION.
- CJ=SLAB ON GRADE CONTROL JOINT OR SAW JOINT PER S-901.
- TYPICAL FF ELEVATION IS 100.00'. SEE CIVIL PLANS FOR ACTUAL ELEVATION.
- FFE=FINISHED FLOOR ELEVATION
-  INDICATES 8" MEDIUM WEIGHT SPLIT FACE CMU



**FOUNDATION PLAN**  
SCALE: 3/8"=1'-0"



Plot Date: 10/20/2023 12:28 PM Plotted By: Allen Boehm  
 Date Created: 7/28/2023 Location: \\JUB\COMMON\CLIENTS\BOISE\CITY PROJECTS\10-22-077\_S-101\DWG

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| DESIGNED: RSM | DATE: 2023                 |
| DRAWN: ARB    | SECTION: 11, T3N, R2E      |
| CHECKED: BRW  | FILE NO.: 10-22-077_S-101x |


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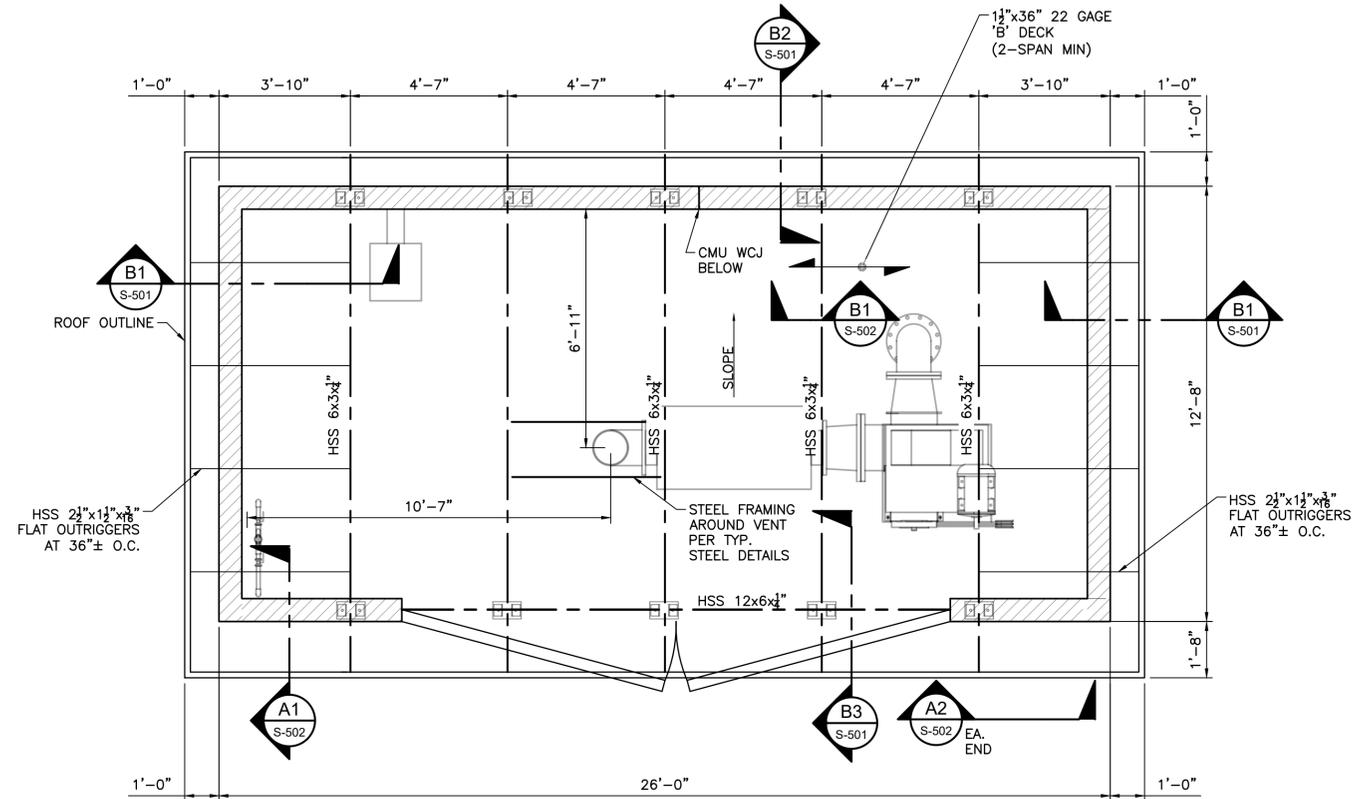
CITY OF BOISE  
ODOR CONTROL

FLOOR PLAN

  
 Engineers • Surveyors • Planners  
 SHEET: S-101  
 PROJECT NUMBER:  
 CSP-1085

**ROOF FRAMING PLAN NOTES**

1. COORDINATE & VERIFY ALL DIMENSIONS WITH CIVIL AND EQUIPMENT PLANS.
2. SEE SHEETS S-001 & S-002 FOR THE GENERAL STRUCTURAL NOTES REQUIREMENTS.
3. SEE SHEETS S-901 THROUGH S-903 FOR TYPICAL STRUCTURAL CONSTRUCTION DETAILS.
4. (XXXX.XX') INDICATES (MIN.) BOTTOM OF FOOTING ELEVATION.
5. CJ=SLAB ON GRADE CONTROL JOINT OR SAW JOINT PER S-901.
6. TYPICAL FF ELEVATION IS 100.00'. SEE CIVIL PLANS FOR ACTUAL ELEVATION.
7. FFE=FINISHED FLOOR ELEVATION
8. [Hatched Box] INDICATES 8" MEDIUM WEIGHT SPLIT FACE CMU
9. [Arrow] INDICATES SPAN DIRECTION OF STEEL ROOF DECKING



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



Plot Date: 10/20/2025 12:28 PM Plotted By: Allen Boehm  
 Date Created: 7/24/2025 Location: \\JUB\COMMON\CLIENTS\BOISE\CITY PROJECTS\10-22-077\_S-102.DWG

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| DRAWN: ARB    | SECTION: 11, T3N, R2E     |
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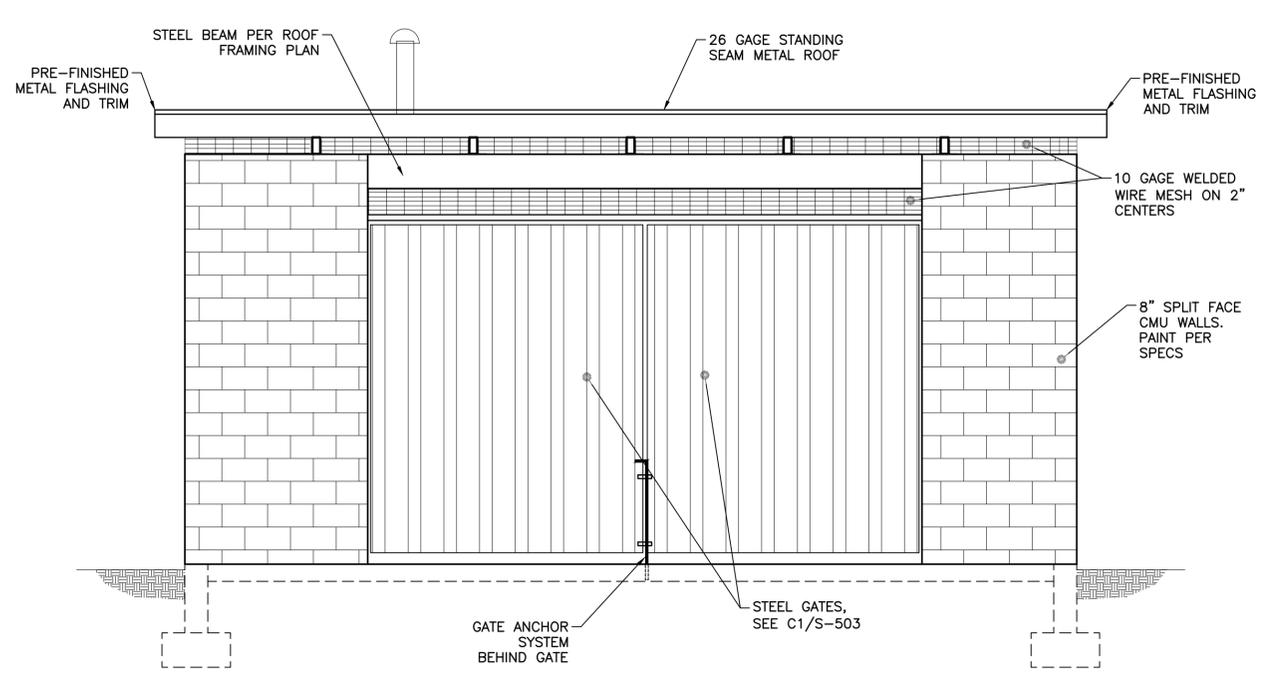

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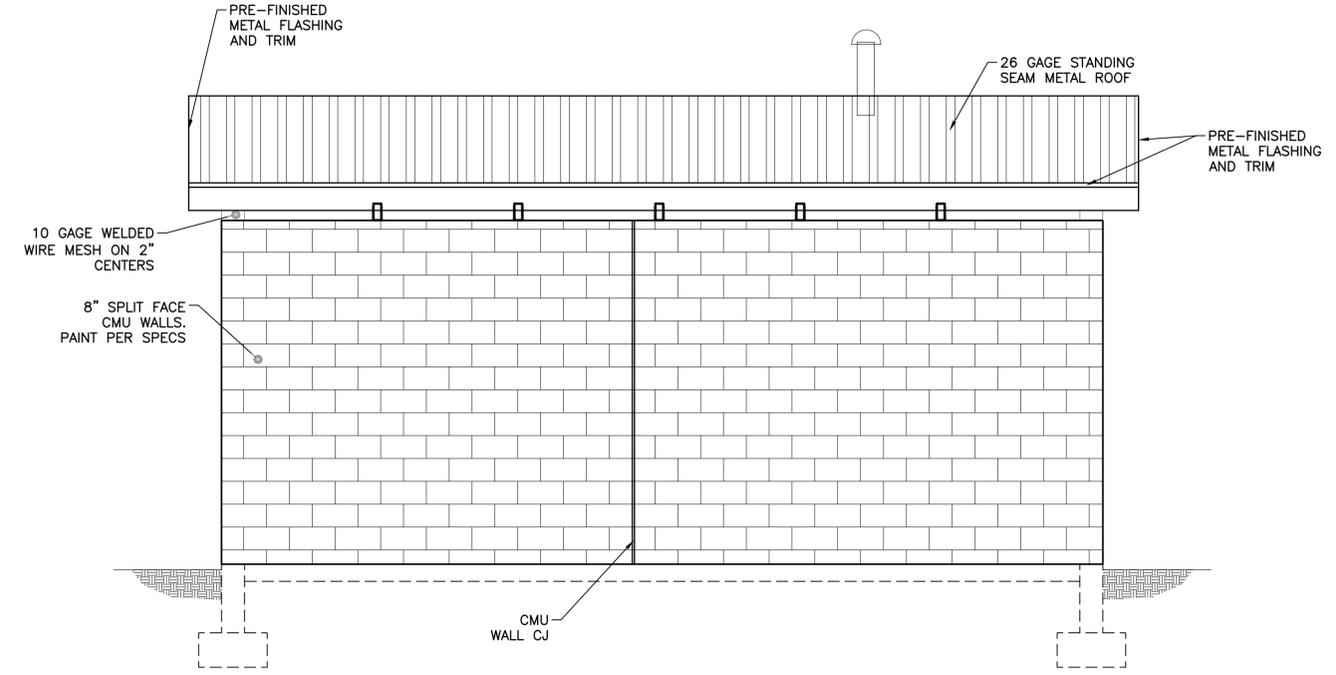
ROOF FRAMING PLAN

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|-----------------------------|
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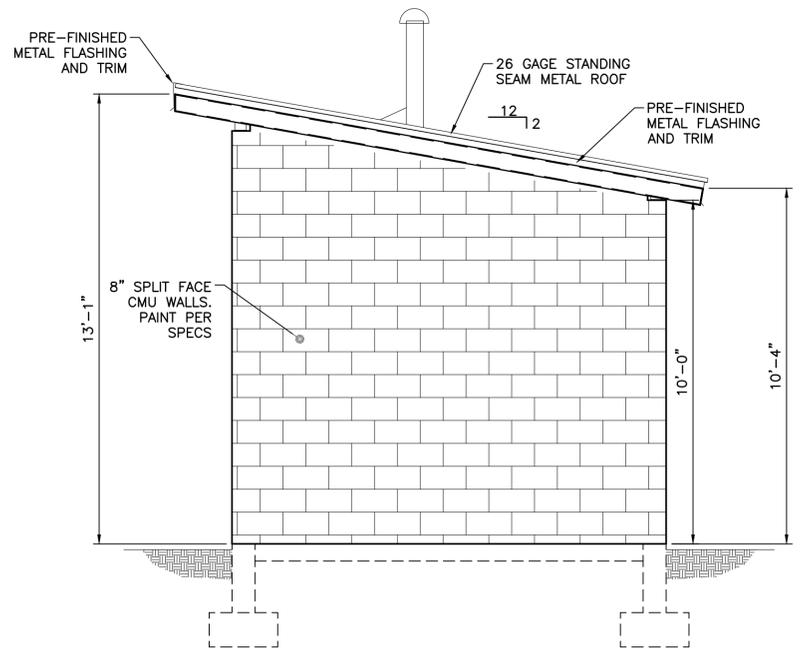




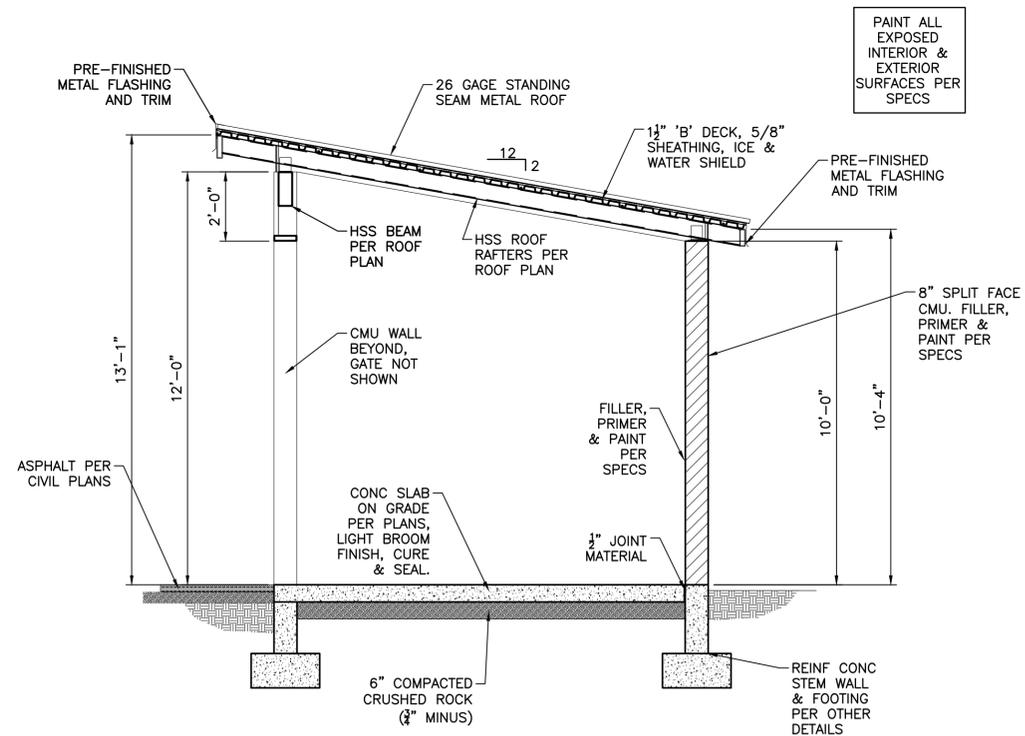
**FRONT ELEVATION**  
SCALE: 3/8"=1'-0"



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



**SIDE ELEVATION**  
SCALE: 3/8"=1'-0"



**4 STRUCTURAL SECTION**  
SCALE: 3/8"=1'-0"

PAINT ALL EXPOSED INTERIOR & EXTERIOR SURFACES PER SPECS



Plot Date: 10/20/2025, 12:28 PM, Plotted By: Allen Boehm  
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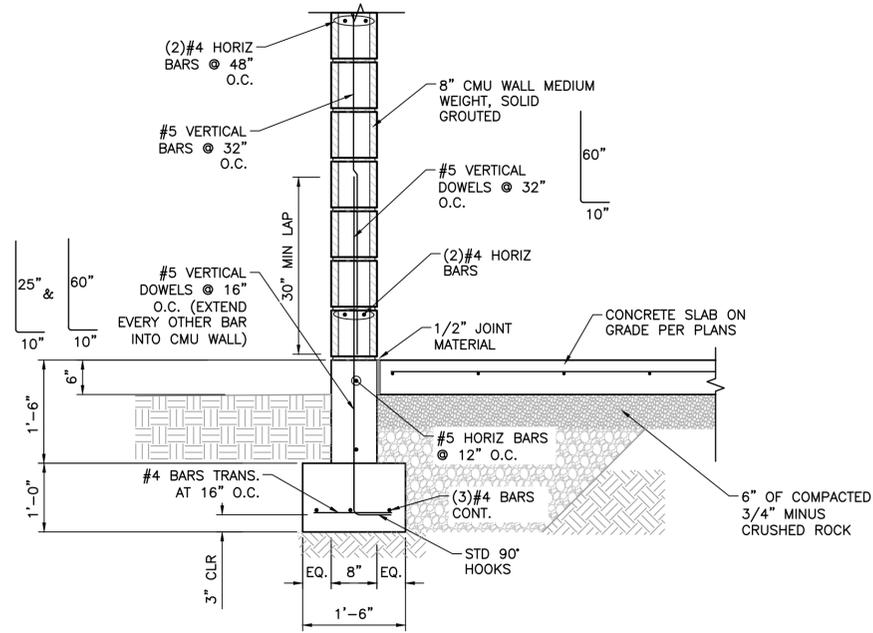
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| DRAWN: ARB    | SECTION: 11, T3N, R2E      |
| CHECKED: BRW  | FILE NO.: 10-22-077_S-101x |

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 BOISE, IDAHO 83702  
 (208) 384-3900

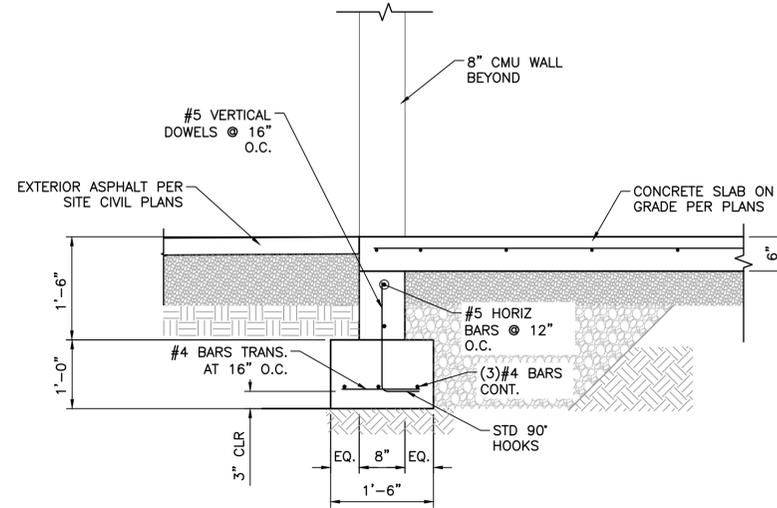
**CITY OF BOISE**  
**ODOR CONTROL**

**BUILDING ELEVATIONS**  
**AND SECTION**

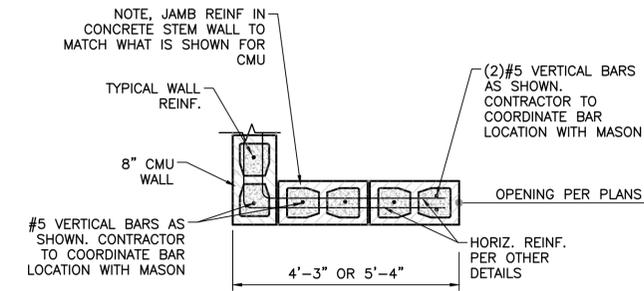
**JUB**  
 Engineers • Surveyors • Planners  
 SHEET: S-401  
 PROJECT NUMBER:  
 CSP-1085



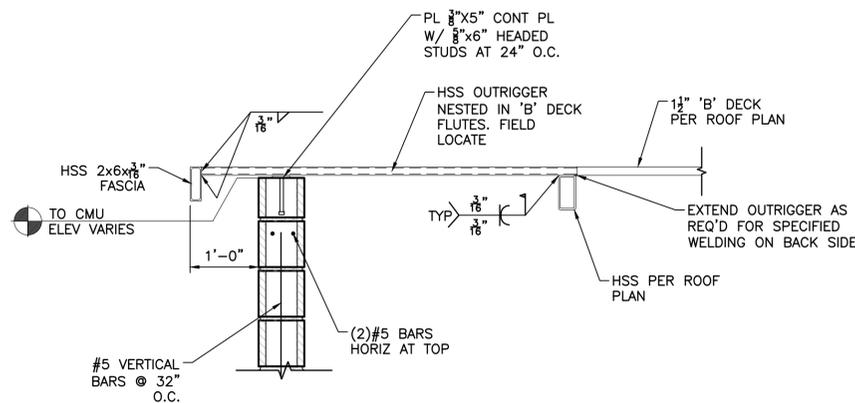
**A1** TYPICAL FOOTING TO CMU WALL DETAIL  
SCALE: 3/4"=1'-0"



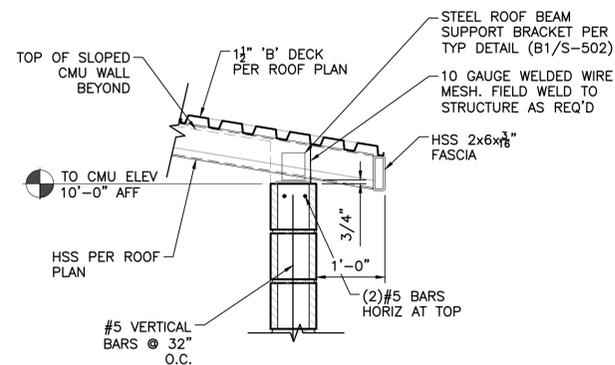
**A2** TYPICAL FOOTING AT GATE OPENING  
SCALE: 3/4"=1'-0"



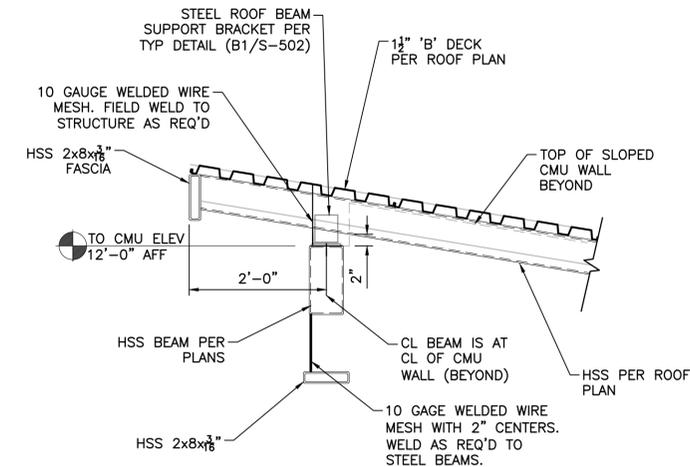
**A3** TYPICAL CMU WALL JAMB AT GATE OPENING  
SCALE: 3/4"=1'-0"



**B1** TYPICAL RAKE WALL TO ROOF DETAIL  
SCALE: 3/4"=1'-0"



**B2** TYPICAL LOW END OF ROOF DETAIL  
SCALE: 3/4"=1'-0"



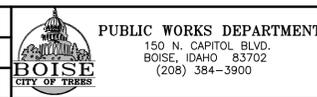
**B3** TYPICAL ROOF RAFTER TO STEEL BEAM DETAIL  
SCALE: 3/4"=1'-0"



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| DATE | NO. | REVISION | DATE | NO. | REVISION |
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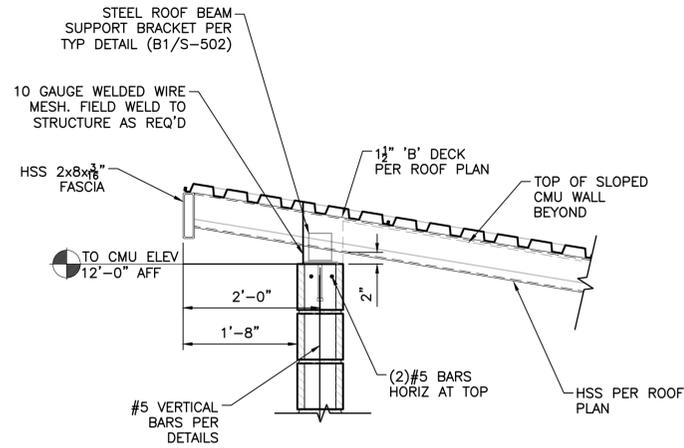
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| DESIGNED: RSM | DATE: 2023                 |
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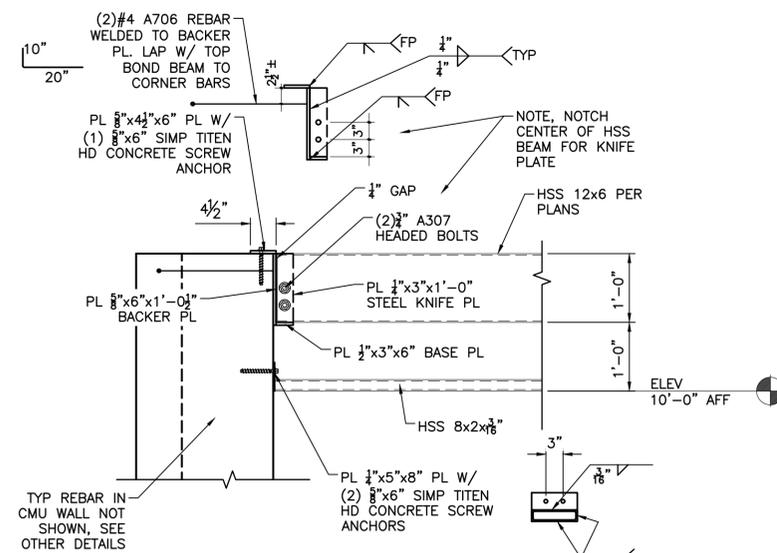
CITY OF BOISE  
ODOR CONTROL

STRUCTURAL DETAILS

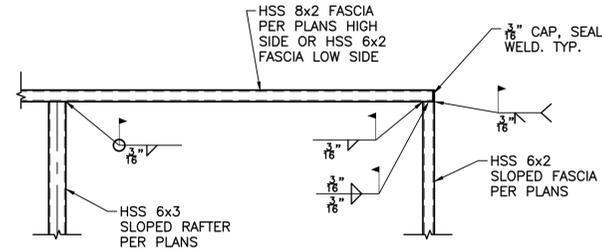
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| <b>JUB</b><br>Engineers • Surveyors • Planners |
| SHEET: S-501                                   |
| PROJECT NUMBER:<br>CSP-1085                    |



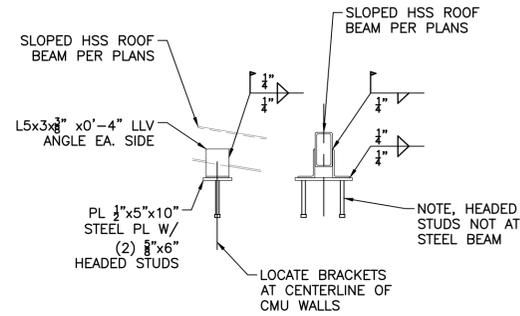
**A1** TYPICAL HIGH SIDE ROOF BEAM TO CMU WALL DETAIL  
SCALE: 3/4"=1'-0"



**A2** TYPICAL HSS BEAM TO CMU WALL CONNECTION DETAIL  
SCALE: 3/4"=1'-0"



**A3** TYPICAL HSS FASCIA CORNER DETAIL  
SCALE: 3/4"=1'-0"



**B1** TYPICAL ROOF BEAM BRACKET AT CMU WALL AND STEEL BEAM  
SCALE: 3/4"=1'-0"



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 Base Create: 7/28/2025 Location: \\JUB\COMMON\CLIENTS\BOISE\CITY\PROJECTS\10-22-077-STRUCT\COMMUNICATION DESIGN\CAD\SHEET\10-22-077\_S-502.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
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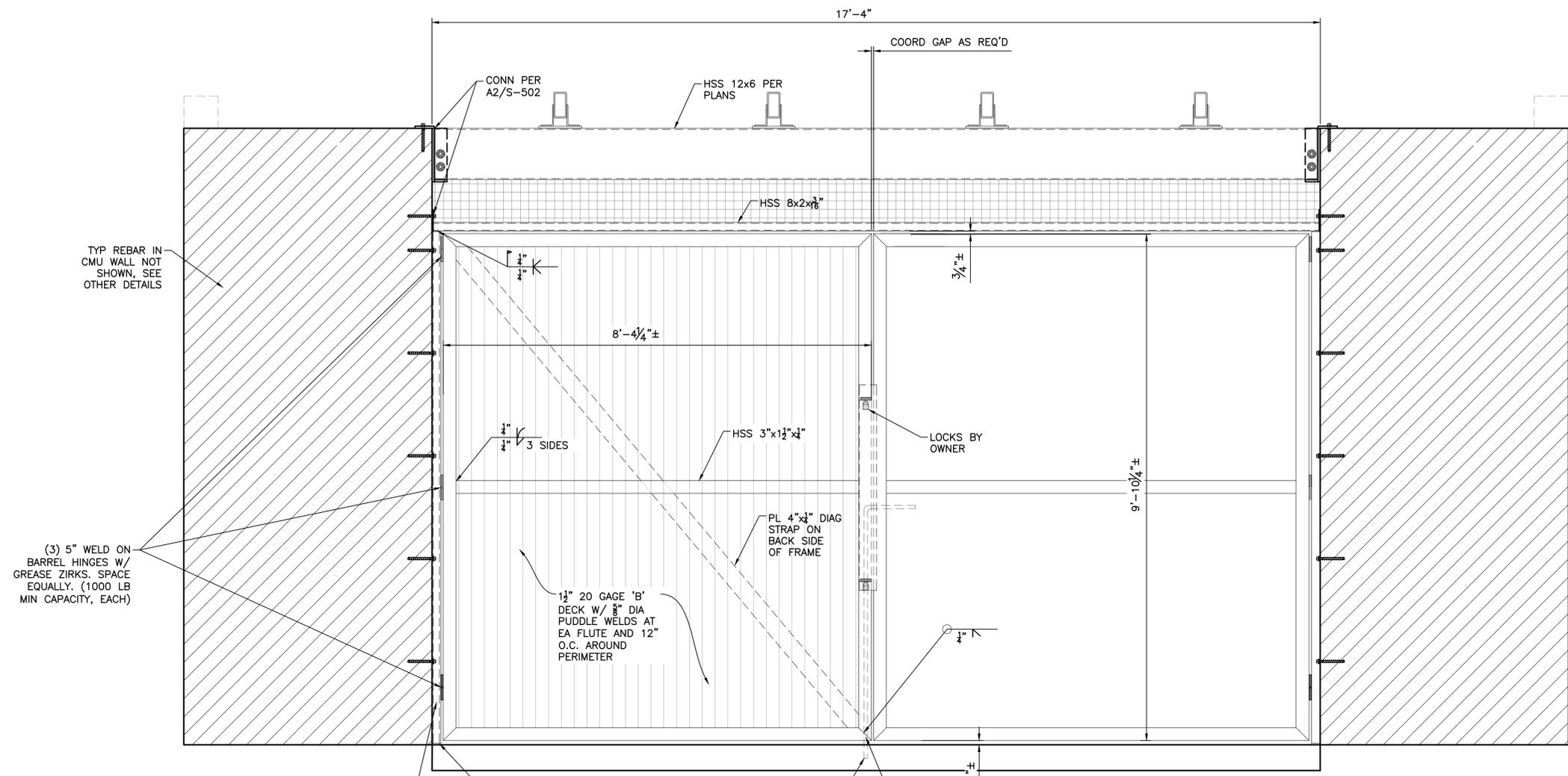
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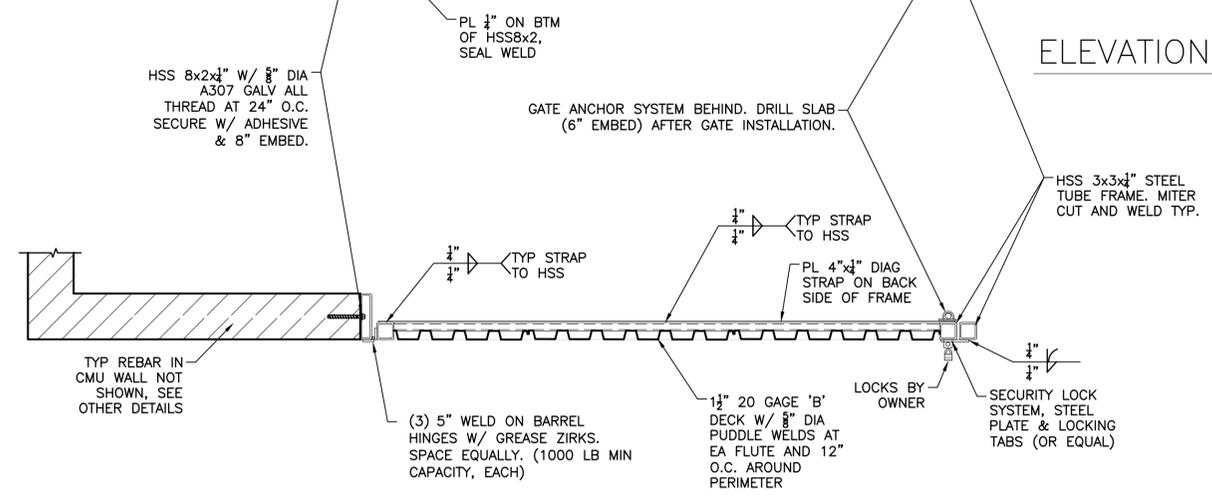
STRUCTURAL DETAILS



SHEET: S-502  
PROJECT NUMBER:  
CSP-1085



ELEVATION VIEW



PLAN VIEW

NOTE:  
LEFT SIDE OF GATE SHOWN  
RIGHT SIDE SIMILAR



**C1 STEEL GATE DETAIL**  
SCALE: 3/4"=1'-0"

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 Date Created: 7/28/2025 Location: \\JUB-PC\CENTRAL\CLIENTS\BOISE\CITY\PROJECTS\10-22-077 - SROOD\INFORMATION\DESIGN\CAD\SHEET\10-22-077\_S-503.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
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| DESIGNED: RSM | DATE: 2023                |
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| CHECKED: BRW  | FILE NO.: 10-22-077_S-503 |


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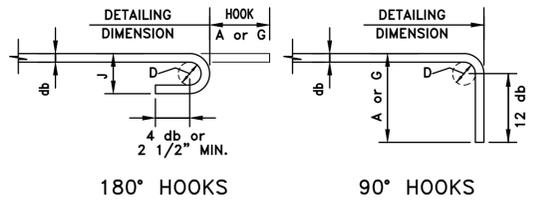
CITY OF BOISE  
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STRUCTURAL DETAILS

  
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 PROJECT NUMBER:  
**CSP-1085**

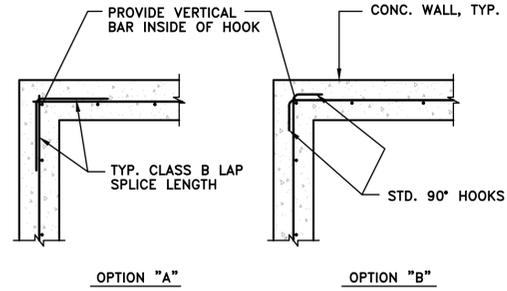
| TYPICAL LAP SPLICE LENGTHS IN INCHES, PER ACI 318 |           |               |       |               |       |               |       |               |       |
|---|-----------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|
| BAR SIZE  | LAP CLASS | f'c=3,000 psi |       | f'c=4,000 psi |       | f'c=4,500 psi |       | f'c=5,000 psi |       |
|   |           | CAT.1         | CAT.2 | CAT.1         | CAT.2 | CAT.1         | CAT.2 | CAT.1         | CAT.2 |
| #3  | A         | 16            | 25    | 14            | 21    | 14            | 20    | 13            | 19    |
|   | B         | 21            | 32    | 19            | 28    | 18            | 27    | 22            | 25    |
| #4  | A         | 22            | 33    | 19            | 28    | 18            | 27    | 17            | 25    |
|   | B         | 28            | 43    | 25            | 37    | 24            | 35    | 22            | 35    |
| #5  | A         | 27            | 41    | 24            | 36    | 23            | 34    | 21            | 32    |
|   | B         | 36            | 53    | 31            | 46    | 30            | 44    | 28            | 41    |
| #6  | A         | 33            | 49    | 28            | 43    | 27            | 41    | 25            | 38    |
|   | B         | 43            | 64    | 37            | 55    | 36            | 53    | 33            | 50    |
| #7  | A         | 48            | 72    | 42            | 62    | 40            | 59    | 37            | 56    |
|   | B         | 62            | 93    | 54            | 81    | 51            | 77    | 48            | 72    |
| #8  | A         | 55            | 82    | 47            | 71    | 45            | 68    | 42            | 64    |
|   | B         | 71            | 106   | 61            | 92    | 58            | 88    | 55            | 83    |
| #9  | A         | 62            | 92    | 53            | 80    | 51            | 76    | 48            | 72    |
|   | B         | 80            | 120   | 69            | 104   | 66            | 99    | 62            | 93    |

- NOTES:
- FOR GRADE 60 REINFORCING STEEL BARS.
  - ALL LAP SPLICES SHALL BE CLASS B, UNLESS NOTED OTHERWISE.
  - CATEGORY 1: CLEAR COVER  $\geq$  db & CLR. SPACING  $\geq$  db, AND STIRRUPS OR TIES THROUGHOUT  $L_d$  ARE PROVIDED.  
CATEGORY 1: CLEAR COVER  $\geq$  db & CLR. SPACING  $\geq$  2db.  
CATEGORY 2: CLEAR COVER  $<$  db OR CLR. SPACING  $<$  2db.  
FOR TOP BARS MULTIPLY LAP LENGTH LISTED BY 1.30
  - TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.



| BAR SIZE | D      | 180° HOOKS |    | 90° HOOKS |
|----------|--------|------------|----|-----------|
|          |        | A or G     | J  | A or G    |
| #3       | 2 1/4" | 5"         | 3" | 6"        |
| #4       | 3"     | 6"         | 4" | 8"        |
| #5       | 3 3/4" | 7"         | 5" | 10"       |
| #6       | 4 1/2" | 8"         | 6" | 1'-0"     |
| #7       | 5 1/4" | 10"        | 7" | 1'-2"     |
| #8       | 6"     | 11"        | 8" | 1'-4"     |

- NOTES:
- db = NOMINAL BAR DIAMETER.
  - D = FINISHED INSIDE BEND DIAMETER.
  - MINIMUM D = 6 db FOR #3 TO #8 BARS
  - MINIMUM D = 8 db FOR #9 TO #11 BARS
  - MINIMUM D = 10 db FOR #14 AND #18 BARS
  - TYPICAL MINIMUM END HOOKS, ALL GRADES OF STEEL.

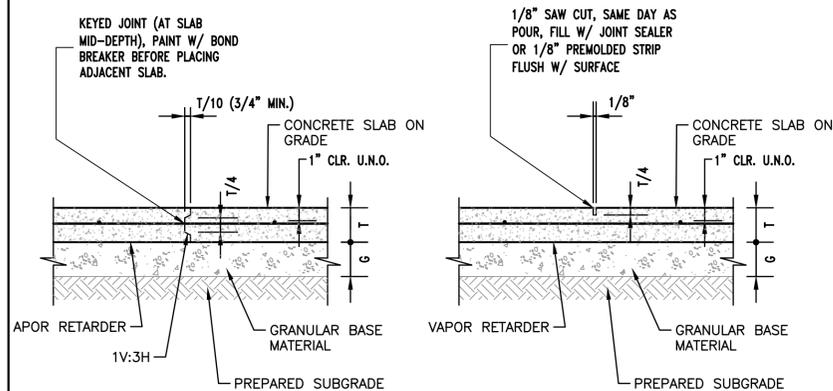


- NOTES:
- CORNER & INTERSECTION BARS TO MATCH SIZE & SPA. OF HORIZ. BARS.
  - CENTER VERTICAL BARS IN WALL UNLESS NOTED OTHERWISE.
  - REFER TO OTHER DETAILS FOR REQUIRED BAR SIZE AND SPACING.
  - THIS IS A TYPICAL DETAIL FOR WALLS WITH (1) ONE MATT OF REBAR.
  - THIS IS A TYPICAL DETAIL FOR NON-WATER RETAINING WALLS.

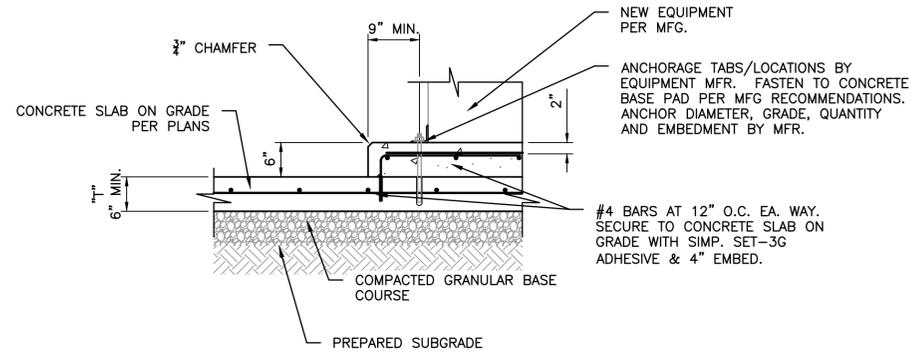
**A1** TYPICAL CONCRETE REBAR LAP SPLICE SCHEDULE  
SCALE:N.T.S.

**A2** TYPICAL REBAR HOOKS DETAIL  
SCALE:N.T.S.

**A3** TYPICAL CONCRETE CORNER WALL DETAILS  
SCALE:N.T.S.



- NOTES:
- REFER TO FOUNDATION PLAN FOR SLAB AND GRANULAR MATERIAL THICKNESS T AND G, AND SLAB REINFORCING REQUIREMENTS
  - CONTROL JOINTS TO BE 15'-0" ON CENTER, MAXIMUM, UNLESS NOTED OTHERWISE.
  - JOINT TYPE USED IS OPTIONAL, UNLESS NOTED OTHERWISE.
  - CUT EVERY OTHER BAR CROSSING CONTROL JOINTS.
  - USE FOR NON WATER-RETAINING INTERIOR FLOOR SLABS.



- NOTE:
- REFER TO FOUNDATION PLANS FOR SLAB THICKNESS T & BASE COURSE G.
  - CLEAN AND APPLY CONCRETE BONDING ADHESIVE (SIKA LATEX OR APPROVED EQUAL) BETWEEN SLAB ON GRADE AND EQUIPMENT PAD

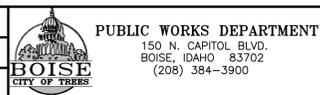
**B1** TYP. CONCRETE SLAB ON GRADE DETAIL  
SCALE:N.T.S.

**B2** TYP. CONCRETE EQUIPMENT PAD DETAIL  
SCALE:N.T.S.



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 Design: CAD SHEET 10-22-077-5-901X.DWG

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| DESIGNED: RSM | DATE: 2023                 |
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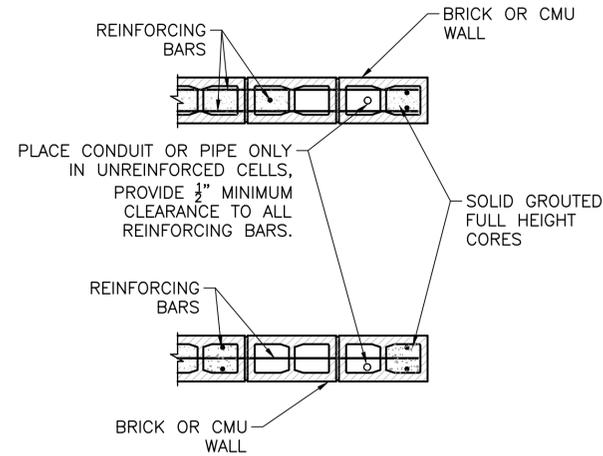
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TYPICAL  
STRUCTURAL DETAILS

SHEET: S-901  
PROJECT NUMBER:  
CSP-1085

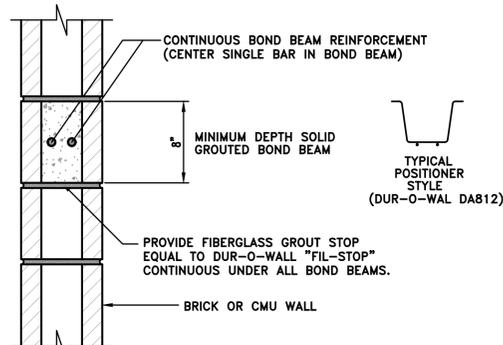
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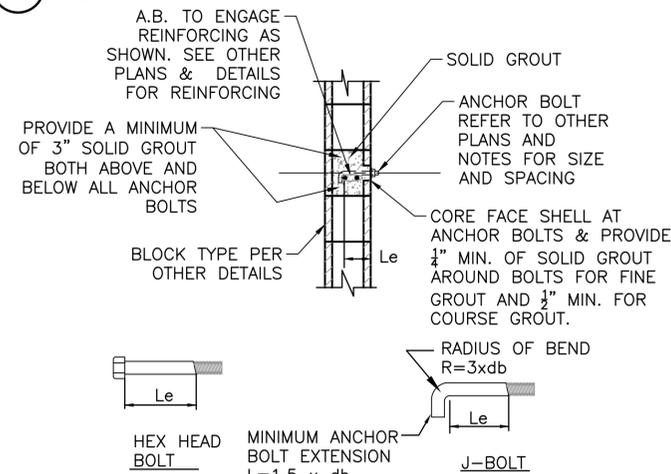
NOTE: REFER TO OTHER DETAILS & NOTES FOR REINFORCING. DO NOT TIE CONDUIT OR PIPE TO REINFORCING STEEL.

**A1** TYPICAL MASONRY WALL CONSTRUCTION  
SCALE: N.T.S.



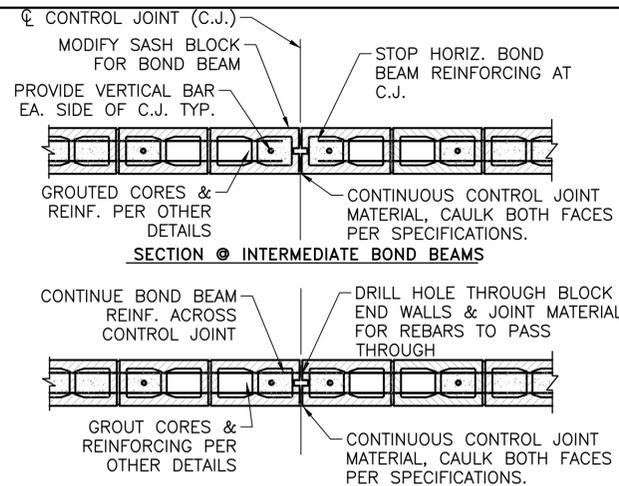
NOTE: BUILDING PAPER IS NOT ALLOWED AS GROUT STOP. REFER TO OTHER DETAILS & NOTES FOR ALL MASONRY REINFORCING. GROUT ALL CORES SOLID FULL HEIGHT WHERE DIRECTED ON THE GENERAL STRUCTURAL NOTES & SPECIFICATIONS & TYPICAL DETAILS.

**B1** TYPICAL MASONRY WALL BOND BEAM DETAIL  
SCALE: N.T.S.



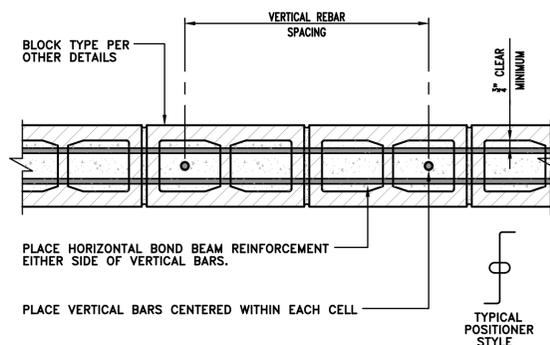
NOTE: REFER TO OTHER NOTES & DETAILS FOR ALL REINF. REQUIREMENTS. REINFORCING IS NOT SHOWN IN THIS VIEW FOR CLARITY. Le=ANCHOR BOLT EMBEDMENT, 5" MIN. UNLESS NOTED OTHERWISE

**C1** TYPICAL MASONRY WALL ANCHOR BOLT EMBED DETAIL  
SCALE: N.T.S.



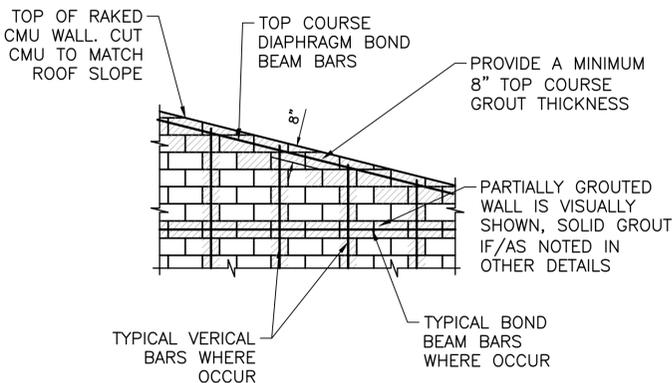
NOTE: REFER TO OTHER DETAILS & NOTES FOR REINFORCING.

**A2** TYP MASONRY WALL CONTROL DETAILS  
SCALE: N.T.S.



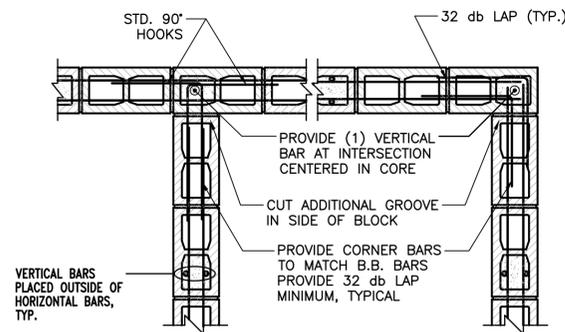
NOTES: PROVIDE FINE GROUT PER ASTM C 476 FOR ALL STRUCTURAL REINFORCED MASONRY. PROVIDE MECHANICAL REBAR POSITIONERS TO CORRECTLY HOLD BARS IN POSITION. TYPICAL DETAIL WHERE (1) VERTICAL BAR IS PLACED WITHIN BLOCK CELLS.

**B2** TYPICAL MASONRY WALL REBAR PLACEMENT DETAIL  
SCALE: N.T.S.



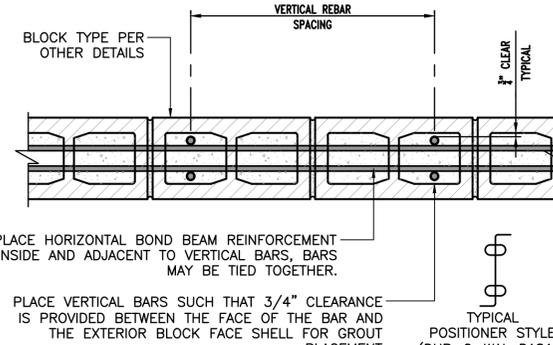
NOTE: REFER TO PLAN & ELEVATION VIEWS FOR ELEVATIONS AND SLOPES. REFER TO OTHER DETAILS FOR WALL REINFORCING REQUIREMENTS. THE ROOF STRUCTURE IS NOT SHOWN IN THIS VIEW. REFER TO OTHER DETAILS FOR BLOCK TYPE.

**C2** TYP RAKED TOP OF WALL DETAIL  
SCALE: N.T.S.



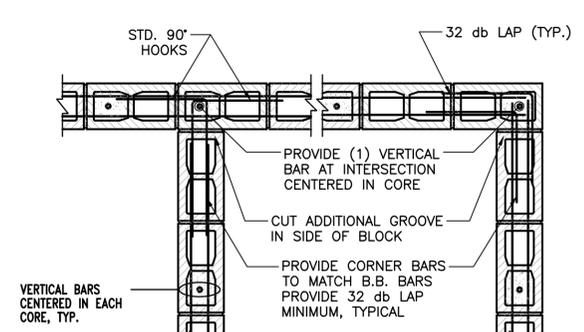
NOTE: REFER TO OTHER DETAILS & NOTES FOR REINFORCING SIZE & SPACING BOND BEAM TO BE SOLID GROUDED FULL HEIGHT & LENGTH. TYPICAL DETAIL WHERE VERTICAL CORES CONTAIN (2) BARS.

**A3** TYP MASONRY WALL INTERSECTION DETAILS  
SCALE: N.T.S.



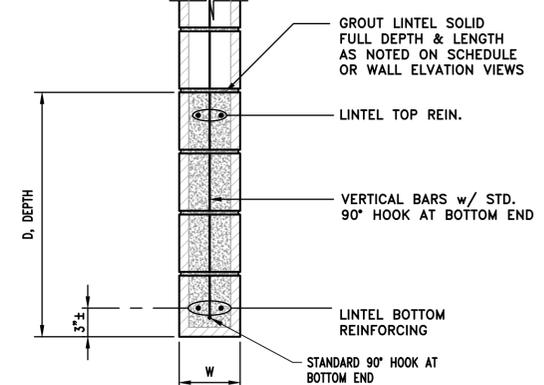
NOTES: PROVIDE FINE GROUT PER ASTM C 476 FOR ALL STRUCTURAL REINFORCED MASONRY. PROVIDE MECHANICAL REBAR POSITIONERS TO CORRECTLY HOLD BARS IN POSITION. TYPICAL DETAIL WHERE (2) VERTICAL BARS ARE PLACED WITHIN BLOCK CELLS.

**B3** TYPICAL MASONRY WALL REBAR PLACEMENT DETAIL  
SCALE: N.T.S.



NOTE: REFER TO OTHER DETAILS & NOTES FOR REINFORCING SIZE & SPACING BOND BEAM TO BE SOLID GROUDED FULL HEIGHT & LENGTH. TYPICAL DETAIL WHERE VERTICAL CORES CONTAIN (1) BAR.

**A4** TYP MASONRY WALL INTERSECTION DETAILS  
SCALE: N.T.S.



NOTE: REFER TO WALL ELEVATION VIEW FOR ADDITIONAL REQUIREMENTS. REFER TO OTHER DETAILS FOR CMU WALL REINFORCING REQUIREMENTS. WHERE NOT OTHERWISE NOTED, EXTEND LINTEL GROUTING 16" EITHER SIDE OF WALL OPENING EDGE.

**B4** TYPICAL MASONRY LINTEL SECTION VIEW  
SCALE: N.T.S.



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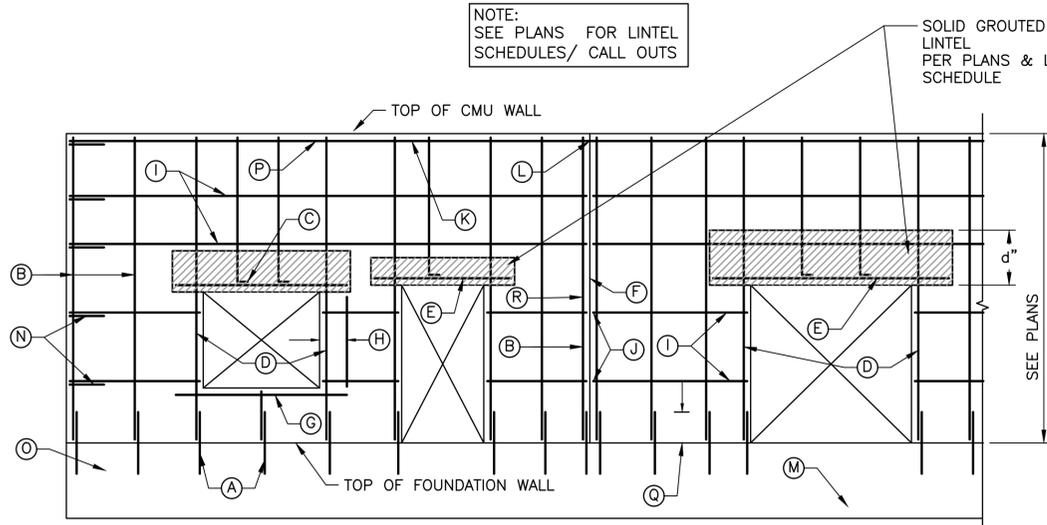
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 BOISE, IDAHO 83702  
 (208) 384-3900

CITY OF BOISE  
ODOR CONTROL

TYPICAL  
STRUCTURAL DETAILS

  
 Engineers • Surveyors • Planners  
 SHEET: S-902  
 PROJECT NUMBER:  
 CSP-1085



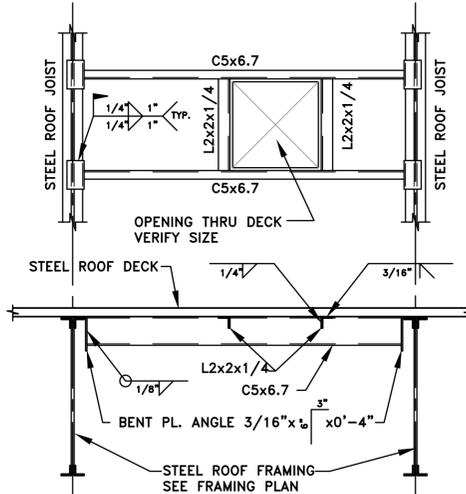
NOTE:  
SEE PLANS FOR LINTEL  
SCHEDULES/ CALL OUTS

SOLID GROUTED MASONRY  
LINTEL  
PER PLANS & LINTEL  
SCHEDULE

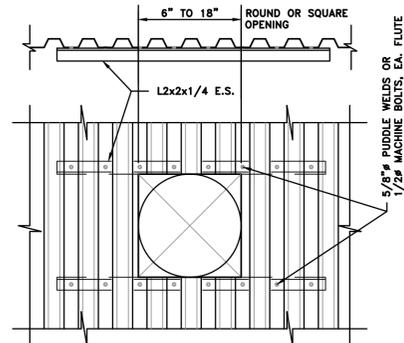
- (A) FOUND. DOWELS TO MATCH VERT. BAR LOCATIONS.
- (B) VERTICAL WALL BARS, 8" CMU: #5 VERT. @ 32" O.C. U.N.O
- (C) STANDARD 90° HOOK.
- (D) 8" CMU: 2-#5 VERTICAL BARS, EA. SIDE OF OPENINGS TYP., U.N.O.
- (E) REFER TO LINTEL REINFORCING SCHEDULE
- (F) VERTICAL WALL CONTROL (C.J.) JOINTS. SEE PLANS
- (G) (2) #4 BAR UNDER EACH OPENING.
- (H) 48 BAR DIAMETERS MINIMUM.
- (I) HORIZ. B.B. REIN, 8" CMU: 2-#4 CONTINUOUS. USE (2)#5 BARS @ 12" CMU
- (J) STOP BOND BEAM BARS @ WALL CONTROL JOINT.
- (K) DIAPHRAGM CHORD B. B. W/ 2-#5 CONT.
- (L) CONTINUE BARS ACROSS WALL CONTROL JOINT.
- (M) CONC. STEM WALL, SEE OTHER DETAILS.
- (N) CORNER BARS AT EACH BOND BEAM.
- (O) FOUNDATION WALL, SEE OTHER DETAILS
- (P) LAP DIAPHRAGM B.B. BARS 72db MINIMUM.
- (Q) LAP 48 db MINIMUM.
- (R) VERT. BAR/BARS EA. SIDE OF C.J.

NOTES:  
WALL SHOWN IS A REPRESENTATIVE SECTION OF TYPICAL MASONRY OR BRICK WALL.  
FOR ACTUAL WALL AND OPENING DIMENSIONS REFER TO THE PLANS AND ELEVATION  
VIEWS. REFER TO OTHER DETAILS AND STRUCTURAL NOTES FOR REINFORCING  
REQUIREMENTS

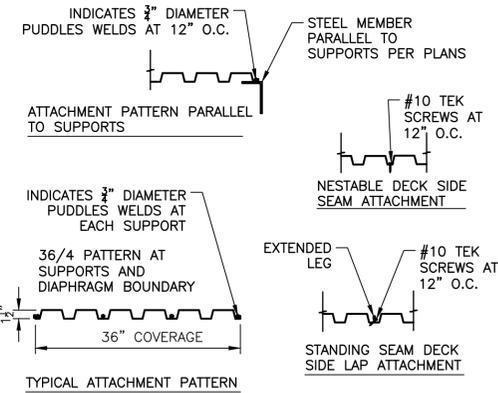
**A1** TYP REINFORCED MASONRY WALL ELEVATION DETAIL  
SCALE: N.T.S.



NOTE: REFER TO MECHANICAL PLANS FOR OPENING SIZES AND LOCATIONS.  
TYP. FOR DECK OPENINGS 18" WIDE OR GREATER, U.N.O..



NOTE:  
REFER TO MECHANICAL PLANS FOR OPENING SIZES AND LOCATIONS.  
EXTEND L2x2x1/4 A MINIMUM OF (2) FLUTES PAST EACH SIDE OF OPENING.  
DETAIL IS TYPICAL FOR OPENINGS THROUGH ROOF DECKING 6" TO 18" IN  
SIZE, SUPPORTING LOADS OF LESS THAN 100 LBS.



**C1** TYP MISC STEEL FRAMING FOR ROOF DECK OPENINGS  
SCALE: N.T.S.

**C2** TYP MISC STEEL FRAMING FOR ROOF DECK OPENINGS  
SCALE: N.T.S.

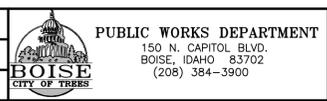
**C2** TYPICAL STEEL DECK ATTACHMENT  
SCALE: N.T.S.



Plot Date: 10/20/2025, 12:29 PM Printed By: Allen Behm  
 Date Created: 7/28/2025 Location: \\JUB\COMMON\CENTRAL\CLIENTS\BOISE\CITY PROJECTS\10-22-077\_S-901X.DWG

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| DESIGNED: RSM | DATE: 2023                 |
| DRAWN: ARB    | SECTION: 11, T3N, R2E      |
| CHECKED: BRW  | FILE NO.: 10-22-077_S-901X |



CITY OF BOISE  
ODOR CONTROL

TYPICAL  
STRUCTURAL DETAILS

SHEET: S-903  
PROJECT NUMBER:  
CSP-1085



**ELECTRICAL LEGEND (LEGEND IS GENERAL IN NATURE. NOT ALL OF THE SYMBOLS SHOWN ARE USED IN THIS PROJECT.)**

**POWER**

DUPLEX OUTLET. +18" AFF UNO.  
 DUPLEX OUTLET. MOUNTED ABOVE COUNTER UNO.  
 DUPLEX OUTLET. +18" AFF UNO WITH GROUND FAULT INTERRUPTION PROTECTION.  
 DUPLEX OUTLET. MOUNTED ABOVE COUNTER UNO WITH GROUND FAULT INTERRUPTION PROTECTION.  
 FOURPLEX OUTLET. +18" AFF UNO.  
 FOURPLEX OUTLET. MOUNTED ABOVE COUNTER UNO.  
 FOURPLEX ISOLATED GROUND OUTLET. +18" AFF UNO.  
 SPECIAL PURPOSE OUTLET. VERIFY SIZE AND TYPE WITH EQUIPMENT SUPPLIER.  
 CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. ELECTRICAL CONTRACTOR TO SUPPLY RACEWAY, CONDUCTORS AND MAKE FINAL CONNECTION TO EQUIPMENT UNDER THIS SECTION, UNO.  
 MOTOR CONNECTION. RE: MECHANICAL EQUIPMENT SCHEDULE

**CIRCUITING SYMBOLS**

CONDUIT STUBBED, CAPPED, AND MARKED WITH PULL CORD.  
 CONDUIT UP.  
 CONDUIT DOWN.  
 HOMERUN. PANEL AND CIRCUIT AS INDICATED.  
 CIRCUIT CONCEALED IN CEILING OR WALL. 3/4"-2#12, 1#12G UNO.  
 CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND. 3/4"-2#12, 1#12G UNO.

RACEWAY SIZE  
 CONDUCTOR SIZE  
 CONDUCTOR QUANTITY

**COMMUNICATIONS**

TELEPHONE OUTLET. FOUR-SQUARE DEEP TYPE BOX WITH SINGLE GANG MUDRING. LOCATED AT 18" AFF UNO.

**ONE LINE**

BRANCH PANEL

**MISCELLANEOUS**

JUNCTION BOX.  
 JUNCTION BOX, WALL MOUNTED.  
 SURFACE MOUNTED PANEL/BOARD/ENCLOSURE. SEE SCHEDULE FOR TYPE.  
 MECHANICAL EQUIPMENT SYMBOL (RE: MECHANICAL DRAWINGS FOR EXACT LOCATION OF UNITS).  
 INDICATES FIXTURE TYPE. REFER TO LUMINAIRE SCHEDULE.

CIRCUIT BREAKER. SIZE AND TYPE AS SPECIFIED.  
 CIRCUIT BREAKER. FRAME SIZE (AF) AND TRIP PLUG RATING (AT), 3 POLE, UNO.  
 FUSE. SIZE AND TYPE AS SPECIFIED. PROVIDE FUSE FOR EACH POLE, 3 POLE, UNO.  
 INTERRUPTER SWITCH. SIZE AS INDICATED, 3 POLE, UNO.  
 FUSED SWITCH. SWITCH SIZE (AS) & FUSE SIZE (AF) AS INDICATED, 3 POLE, UNO.

**LIGHTING** (SEE LUMINAIRE SCHEDULE FOR EXACT REQUIREMENTS)

LIGHT FIXTURE.  
 WALL PACK FIXTURE.  
 POLE LIGHT 1 HEAD SQUARE WITH POLE.  
 POLE LIGHT 2 HEAD SQUARE WITH POLE.  
 EMERGENCY EGRESS LIGHT. WALL MOUNTED.

INDIVIDUAL BREAKER FRAME (AF) SIZE AND TRIP PLUG RATING (AT), NEMA 1 UNO, 3 POLE UNO.  
 COMBINATION MOTOR STARTER.  
 GROUND FAULT PROTECTION.  
 TRANSIENT VOLTAGE SURGE SUPPRESSION.

**SWITCHES**

SWITCH. TYPE AS INDICATED. +46" AFF, UNO.  
 HP HORSEPOWER RATED  
 LV LOW VOLTAGE  
 M MOMENTARY CONTACT TO THERMAL OVERLOAD  
 PHOTOCELL. WALL MOUNTED.  
 MOTOR STARTER/CONTACTOR.  
 COMBINATION STARTER AND DISCONNECT.  
 NON-FUSED DISCONNECT SWITCH. SIZE AS INDICATED, NEMA 1 UNO, 3 POLE UNO.  
 FUSED DISCONNECT SWITCH. SIZE AS INDICATED, NEMA 1 UNO, 3 POLE UNO.

GENERATOR SET. MAIN BREAKER SIZE INDICATED.  
 TRANSFER SWITCH.  
 METER AND BASE.  
 NEUTRAL.  
 TRANSFORMER

**SHEET INDEX**

E-001 ELECTRICAL COVER SHEET  
 E-002 ELECTRICAL SPECIFICATIONS  
 E-003 ELECTRICAL SPECIFICATIONS  
 E-004 ELECTRICAL SPECIFICATIONS  
 E-005 ENERGY COMPLIANCE FORMS  
 E-101 ELECTRICAL PLANS  
 E-201 ONE-LINE DIAGRAM, SCHEDULES, & DETAILS

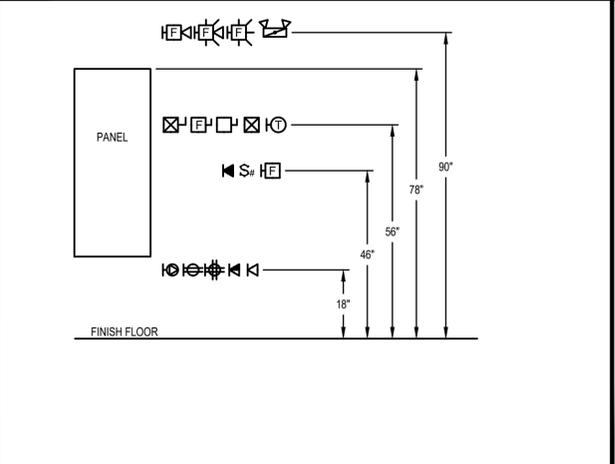
**ABBREVIATIONS & DESCRIPTIONS**

|       |  |       |                                      |
|-------|--|-------|--------------------------------------|
| A     | AMPERES                                  | JUB   | JUNCTION BOX                         |
| AC    | ABOVE COUNTER                            | KW    | KILOWATT                             |
| AFF   | ABOVE FINISHED FLOOR                     | M     | MAGNETIC CONTACTOR COIL              |
| AFG   | ABOVE FINISHED GRADE                     | MB    | MAIN BREAKER                         |
| AF    | AMPERE FRAME                             | MCC   | MOTOR CONTROL CENTER                 |
| AFCI  | ARC FAULT CIRCUIT INTERRUPT              | MLO   | MAIN LUGS ONLY                       |
| AHJ   | AUTHORITY HAVING JURISDICTION            | MPC   | MINI POWER CENTER                    |
| AT    | AMP TRIP                                 | MS    | MOTOR STARTER                        |
| AWG   | AMERICAN WIRE GAUGE                      | MH    | MANHOLE                              |
| C     | CONDUIT                                  | N     | NEUTRAL                              |
| CB    | CIRCUIT BREAKER                          | NC    | NORMALLY CLOSED                      |
| CKT   | CIRCUIT                                  | NEC   | NATIONAL ELECTRICAL CODE             |
| CL    | CRITICAL LOAD                            | NO    | NORMALLY OPEN                        |
| CO    | CONDUIT ONLY, PROVIDE PULL-LINE          | NTS   | NOT TO SCALE                         |
| DC    | DIRECT CURRENT                           | OL    | OVERLOAD                             |
| DET   | DETAIL                                   | OS    | OCCUPANCY SENSOR                     |
| (E)   | EXISTING                                 | OF/CI | OWNER FURNISHED CONTRACTOR INSTALLED |
| EF    | EXHAUST FAN                              | PC    | PHOTOCELL                            |
| EL    | EMERGENCY LIGHT                          | PHF   | PASSIVE HARMONIC FILTER              |
| F     | FUSE                                     | PVC   | POLYVINYL CHLORIDE                   |
| FACP  | FIRE ALARM CONTROL PANEL                 | RCPT  | RECEPTACLE                           |
| FVNR  | FULL VOLTAGE NON-REVERSING               | SER   | SERVICE ENTRANCE RATED               |
| G/GND | GROUND                                   | SPST  | SINGLE POLE SINGLE THROW             |
| GFI   | GROUND FAULT INTERRUPTION                | TJB   | TERMINAL JUNCTION BOX                |
| GFP   | GROUND FAULT PROTECTION                  | TSP   | TWISTED SHIELDED PAIR                |
| HH    | HANDHOLE                                 | TVSS  | TRANSIENT VOLTAGE SURGE SUPPRESSER   |
| HOA   | HAND OFF AUTO                            | TYP   | TYPICAL                              |
| HP    | HORSE POWER                              | UH    | UNIT HEATER                          |
| HVAC  | HEATING, VENTILATING, & AIR CONDITIONING | UNO   | UNLESS NOTED OTHERWISE               |
| IC    | INTERRUPTING CAPACITY                    | V     | VOLT                                 |
| IG    | ISOLATED GROUND                          | VA    | VOLT AMPERE                          |
|       |  | VFD   | VARIABLE FREQUENCY DRIVE             |
|       |  | WG    | PROVIDE PROTECTIVE WIRE GUARD        |
|       |  | WP    | WEATHER PROOF/NEMA 3R                |
|       |  | XFMR  | TRANSFORMER                          |

**GENERAL ELECTRICAL NOTES**

- (RE: ALL ELECTRICAL SHEETS)
- ALL ELECTRICAL EQUIPMENT AND SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE, AND ALL OTHER STATE AND LOCAL CODES. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER IN WRITING IF PORTIONS OF THE DESIGN SET OR FIELD CONDITIONS DO NOT MEET REQUIRED CODES.
  - PROVIDE FIRESTOPPING FOR ALL FLOOR, CEILING AND FIREWALL PENETRATIONS FROM ELECTRICAL FIXTURE, DEVICE, RACEWAY, AND CABLE PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR FIREWALL ASSEMBLY LOCATIONS.
  - ELECTRICAL DEVICES AND LINWORK ARE SHOWN BOLD FOR NEW, BOLD/DASHED FOR DEMO AND SCREENED FOR EXISTING.
  - DESIGN OF ELECTRICAL REQUIREMENTS, FOR MECHANICAL EQUIPMENT, IS BASED ON MECHANICAL EQUIPMENT SPECIFIED. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR IF EQUIPMENT PURCHASED IS DIFFERENT FROM THAT SPECIFIED STILL MEETS DESIGN INTENT, INCLUDING BUT NOT LIMITED TO OVERCURRENT PROTECTION, LOCAL DISCONNECTING MEANS, WIRE SIZING AND DESIGN COSTS.
  - ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING, REVIEWING, AND PROVIDING THE REQUIRED WORK SHOWN AND CONTAINED WITH IN THE ENTIRE CONSTRUCTION CONTRACT DOCUMENT SET.

**MOUNTING HEIGHTS DETAIL**



Plot Date: 10/17/2025 10:10 AM Plotted By: Calvin Burton  
 Base Created: 10/17/2025 10:10 AM Plotted By: Calvin Burton  
 Base Created: 10/17/2025 10:10 AM Plotted By: Calvin Burton



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| DESIGNED: CB | DATE: 2025             |
| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-001 |

**PUBLIC WORKS DEPARTMENT**  
 150 N. CAPITOL BLVD.  
 BOISE, IDAHO 83702  
 (208) 384-3900

CITY OF BOISE  
 ODOR CONTROL

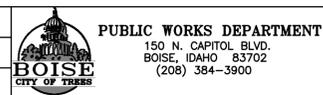
ELECTRICAL  
 COVER SHEET

SHEET: E-001  
 PROJECT NUMBER:

Plot Date: 10/17/2025 10:10 AM Plotted By: Colvin Burton  
User: cburton Date Created: 8/27/2025 Location: \\DCEN\PROJECTS\2025\25JUB01 - E-002.rvt  
User: cburton Date Created: 8/27/2025 Location: \\DCEN\PROJECTS\2025\25JUB01 - E-002.rvt

- PART 1 GENERAL**
- 1.01 SUBMITTALS**
- A. ACTION SUBMITTALS:**
- ENCLOSURES.
  - JUNCTION AND PULL BOXES.
  - DEVICE PLATES.
  - CIRCUIT BREAKER, INDIVIDUAL.
  - NON-FUSED SWITCH.
  - FUSES.
  - SUPPORT AND FRAMING CHANNELS.
  - NAMEPLATES.
  - CONDUIT, FITTINGS, AND ACCESSORIES.
  - CONDUCTORS, CABLES, AND ACCESSORIES.
  - GROUNDING.
  - PANELBOARDS.
  - TRANSFORMERS.
  - VARIABLE FREQUENCY DRIVES.
  - ELECTRICAL SYSTEM ANALYSIS.
- B. INFORMATIONAL SUBMITTALS:**
- FACTORY TEST REPORTS.
  - FIELD TEST REPORTS.
  - SIGNED PERMITS INDICATING WORK IS ACCEPTABLE TO REGULATORY AUTHORITIES HAVING JURISDICTION.
  - OPERATION AND MAINTENANCE DATA:
    - PROVIDE FOR ALL EQUIPMENT, AS WELL AS EACH DEVICE HAVING FEATURES THAT CAN REQUIRE ADJUSTMENT, CONFIGURATION, OR MAINTENANCE.
    - MINIMUM INFORMATION SHALL INCLUDE MANUFACTURER'S PREPRINTED INSTRUCTION MANUAL, ONE COPY OF THE APPROVED SUBMITTAL INFORMATION FOR THE ITEM, TABULATION OF ANY SETTINGS, AND COPIES OF ANY TEST REPORTS.
- 1.02 APPROVAL BY AUTHORITY HAVING JURISDICTION**
- A. PROVIDE THE WORK IN ACCORDANCE WITH NFPA 70, NATIONAL ELECTRICAL CODE (NEC), WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ). MATERIAL AND EQUIPMENT SHALL BE LABELED OR LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY OR OTHER ORGANIZATION ACCEPTABLE TO THE AHJ, IN ORDER TO PROVIDE A BASIS FOR APPROVAL UNDER THE NEC.**
- B. MATERIALS AND EQUIPMENT MANUFACTURED WITHIN THE SCOPE OF THE STANDARDS PUBLISHED BY THE UNDERWRITERS LABORATORIES, INC. SHALL CONFORM TO THOSE STANDARDS AND SHALL HAVE AN APPLIED UL LISTING MARK OR LABEL.**
- 1.03 ENVIRONMENTAL CONDITIONS**
- A. UNLESS OTHERWISE SPECIFIED, EQUIPMENT AND MATERIALS SHALL NOT BE SIZED AND DE-RATED FOR THE AMBIENT CONDITIONS BUT NOT LESS THAN AN AMBIENT TEMPERATURE OF 40 DEGREES C AT AN ELEVATION OF 2,700 FEET WITHOUT EXCEEDING THE MANUFACTURER'S STATED TOLERANCES.**
- 1.04 EXTRA MATERIALS**
- A. FURNISH, TAG, AND BOX FOR SHIPMENT AND STORAGE THE FOLLOWING SPARE PARTS AND SPECIAL TOOLS:**
- FUSES, 0 TO 600 VOLTS: SIX OF EACH TYPE AND EACH CURRENT RATING INSTALLED.
- 1.05 ELECTRICAL SERVICE DIVISION OF RESPONSIBILITY**
- A. PROVIDE CUSTOMER REQUIRED SERVICE PROVISIONS AND ELECTRICAL WORK. SCHEDULE AND COORDINATE WORK OF IDAHO POWER COMPANY AS REQUIRED TO PROVIDE ELECTRICAL SERVICE TO THE WORK.**
- PART 2 PRODUCTS**
- 2.01 GENERAL**
- A. PRODUCTS SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF NFPA 70.**
- B. LIKE ITEMS OF EQUIPMENT: END PRODUCTS OF ONE MANUFACTURER IN ORDER TO ACHIEVE STANDARDIZATION FOR APPEARANCE, OPERATION, MAINTENANCE, SPARE PARTS, AND MANUFACTURER'S SERVICE.**
- C. EQUIPMENT FINISH:**
- MANUFACTURER'S STANDARD FINISH COLOR, EXCEPT WHERE SPECIFIC COLOR IS INDICATED.
- 2.02 ENCLOSURES**
- A. FINISH: SHEET METAL STRUCTURAL AND ENCLOSURE PARTS SHALL BE COMPLETELY PAINTED USING AN ELECTRODEPOSITION PROCESS SO INTERIOR AND EXTERIOR SURFACES AS WELL AS BOLTED STRUCTURAL JOINTS HAVE A COMPLETE FINISH COAT ON AND BETWEEN THEM.**
- B. COLOR: MANUFACTURER'S STANDARD COLOR (GRAY) BAKED-ON ENAMEL, UNLESS OTHERWISE SHOWN.**
- C. BARRIERS: PROVIDE METAL BARRIERS WITHIN ENCLOSURES TO SEPARATE WIRING OF DIFFERENT SYSTEMS AND VOLTAGE.**
- D. ENCLOSURE SELECTIONS: EXCEPT AS SHOWN OTHERWISE, PROVIDE ELECTRICAL ENCLOSURES ACCORDING TO THE FOLLOWING:**
- INDOOR - DRY ENVIRONMENT - FINISHED - NEMA 250, TYPE 1
  - INDOOR - INDUSTRIAL USE - UNFINISHED - NEMA 250, TYPE 12
  - OUTDOOR - DENOTED AS 'WP' - ANY FINISH - NEMA 250, TYPE 3R
  - INDOOR AND OUTDOOR - WET AND/OR CORROSIVE - WHERE APPLICABLE - ANY FINISH - NEMA 250, TYPE 4X: 304 STAINLESS STEEL.
- 2.03 JUNCTION AND PULL BOXES**
- A. OUTLET BOXES USED AS JUNCTION OR PULL BOX: AS SPECIFIED UNDER ARTICLE OUTLET AND DEVICE BOXES.**
- B. CONDUIT BODIES USED AS JUNCTION BOXES: AS SPECIFIED UNDER ARTICLE CONDUIT AND FITTINGS.**
- C. SHEET STEEL BOX:**
- NEMA 250, TYPE 1.
- 2. BOX: CODE-GAUGE, GALVANIZED STEEL.**
- 3. COVER: HINGED WITH CLAMPS.**
- 4. MACHINE SCREWS: CORROSION-RESISTANT.**
- D. STAINLESS STEEL BOX:**
- NEMA 250, TYPE 4X.
  - BOX: 1/4-GAUGE, ASTM A240, TYPE 304 STAINLESS STEEL COVER: HINGED WITH CLAMPS.
  - HARDWARE AND MACHINE SCREWS: ASTM A167, TYPE 304 STAINLESS STEEL.
  - MANUFACTURERS:
    - HOFFMAN ENGINEERING CO.
    - ROBROY INDUSTRIES.
    - APPROVED EQUIVALENT.
- 2.04 DEVICE PLATES**
- A. GENERAL: SECTIONAL TYPE PLATES NOT PERMITTED.**
- B. METAL:**
- MATERIAL: SPECIFICATION GRADE, ONE-PIECE, 0.040 INCH NOMINAL THICKNESS STAINLESS STEEL.
  - FINISH: ASTM A167, TYPE 302/304, SATIN.
  - MOUNTING SCREW: OVAL-HEAD, FINISH MATCHED TO PLATE.
- C. CAST METAL:**
- MATERIAL: MALLEABLE FERROUS METAL WITH GASKETS.
  - SCREW: OVAL-HEAD STAINLESS STEEL.
- D. ENGRAVED:**
- CHARACTER HEIGHT: 3/16 INCH.
  - FILLER: BLACK.
- E. WEATHERPROOF:**
- FOR RECEPTACLES, DAMP LOCATIONS:
    - GASKETED, CAST-ALUMINUM, WITH INDIVIDUAL CAP OVER EACH RECEPTACLE OPENING.
    - MOUNTING SCREW AND CAP SPRING: STAINLESS STEEL.
    - MANUFACTURERS AND PRODUCTS:
      - CROUSE-HINDS; TYPE WLDR-1.
      - APPLETON; TYPE FSK-WRD.
      - APPROVED EQUIVALENT.
  - FOR RECEPTACLES, WET LOCATIONS:
    - IMPACT-RESISTANT, NON-METALLIC, SINGLE-GANG, VERTICAL MOUNTING, PROVIDING, WHILE IN USE, NEMA 3R RATING.
    - STAINLESS STEEL MOUNTING AND HINGE HARDWARE.
    - LOCKABLE, PAINTABLE.
    - COLOR: GRAY.
    - MANUFACTURERS:
      - CARLON.
      - LEVITON.
      - APPROVED EQUIVALENT.
  - FOR SWITCHES:
    - GASKETED, CAST-METAL, INCORPORATING EXTERNAL OPERATOR FOR INTERNAL SWITCH.
    - MOUNTING SCREW: STAINLESS STEEL.
    - MANUFACTURERS AND PRODUCTS:
      - CROUSE-HINDS: DS-181 OR DS-185.
      - APPLETON: FSK-1VTS OR FSK-1VS.
      - APPROVED EQUIVALENT.
- 2.05 FUSED SWITCH, INDIVIDUAL, 0 TO 600 VOLTS**
- A. UL 98 LISTED FOR USE AND LOCATION OF INSTALLATION.**
- B. NEMA KS 1 AND UL 98 LISTED FOR APPLICATION TO SYSTEM WITH AVAILABLE FAULT CURRENT OF 10,000 AMPS SYMMETRICAL.**
- C. QUICK-MAKE, QUICK-BREAK, MOTOR RATED, LOAD-BREAK, HEAVY-DUTY (HD) TYPE WITH EXTERNAL MARKINGS CLEARLY INDICATING ON/OFF POSITIONS.**
- D. SUITABLE FOR USE WITH 75 DEGREES C WIRE AT FULL NFPA 70, 75 DEGREES C AMPACITY.**
- E. FUSE MOUNTINGS SHALL REJECT CLASS H FUSES AND ACCEPT ONLY CURRENT-LIMITING FUSES SPECIFIED.**
- F. ENCLOSURE: AS SHOWN ON DRAWINGS.**
- G. INTERLOCK: ENCLOSURE AND SWITCH TO PREVENT OPENING COVER WITH SWITCH IN ON POSITION.**
- H. MANUFACTURERS:**
- EATON.
  - GENERAL ELECTRIC CO.
  - SCHNEIDER ELECTRIC.
  - APPROVED EQUIVALENT.
- 2.06 NON-FUSED SWITCH, INDIVIDUAL, 0 TO 600 VOLTS**
- A. NEMA KS 1.**
- B. QUICK-MAKE, QUICK-BREAK, MOTOR RATED, LOAD-BREAK, HEAVY-DUTY (HD) TYPE WITH EXTERNAL MARKINGS CLEARLY INDICATING ON/OFF POSITIONS.**
- C. SUITABLE FOR USE WITH 75 DEGREES C CONDUCTORS AT FULL NEC, 75 DEGREES C AMPACITY.**
- D. INTERLOCK: ENCLOSURE AND SWITCH TO PREVENT OPENING COVER WITH SWITCH IN THE ON POSITION.**
- E. MANUFACTURERS:**
- EATON.
  - GENERAL ELECTRIC CO.
  - SCHNEIDER ELECTRIC CO.
  - APPROVED EQUIVALENT.
- 2.07 FUSE, 0 TO 600 VOLTS**
- A. CURRENT-LIMITING, WITH 200,000 AMPERE RMS INTERRUPTING RATING.**
- B. PROVIDE TO FIT MOUNTINGS SPECIFIED WITH SWITCHES AND FEATURES TO REJECT CLASS H FUSES.**
- 2.08 CIRCUIT BREAKER, INDIVIDUAL, 0 TO 600 VOLTS**
- A. UL 489 LISTED FOR USE AT LOCATION OF INSTALLATION.**
- B. MINIMUM INTERRUPTING RATING: AS SHOWN ON DRAWINGS.**
- C. THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, INDICATING TYPE SHOWING ON/OFF AND TRIPPED INDICATING POSITIONS OF OPERATING HANDLE.**
- D. SUITABLE FOR USE WITH 75 DEGREES C WIRE AT FULL NFPA 70, 75 DEGREES C AMPACITY.**
- E. PROVISIONS FOR PADLOCKING HANDLE.**
- F. ENCLOSURE: AS SHOWN ON DRAWINGS.**
- G. INTERLOCK: ENCLOSURE AND SWITCH SHALL INTERLOCK TO PREVENT OPENING COVER WITH BREAKER IN THE ON POSITION.**
- H. MANUFACTURERS:**
- EATON.
  - SCHNEIDER ELECTRIC CO.
  - SIEMENS.
  - APPROVED EQUIVALENT.
- 2.09 COMBINATION FULL-VOLTAGE MOTOR STARTER**
- A. RATING: HORSEPOWER RATED AT 600 VOLTS, UL LABELED FOR 22,000 AMPERES WITH OVERLOAD PROTECTION.**
- B. THREE-PHASE, NON-REVERSING, FULL VOLTAGE.**
- C. CONTROL: HAND/OFF/AUTO SELECTOR SWITCH.**
- D. DISCONNECT TYPE: CIRCUIT BREAKER.**
- E. ENCLOSURE: NEMA 250, TYPE 1.**
- F. PILOT LIGHTS: RUNNING AND FAULT INDICATION, LED PUSH-TO-TEST TYPE.**
- G. PADLOCKABLE OPERATING HANDLE.**
- H. MANUFACTURERS:**
- EATON.
  - SCHNEIDER ELECTRIC CO.
  - SIEMENS.
  - APPROVED EQUIVALENT.
- 2.10 SUPPORT AND FRAMING CHANNELS**
- A. CARBON STEEL FRAMING CHANNEL:**
- B. STAINLESS STEEL FRAMING CHANNEL: ROLLED, ASTM A167, TYPE 316 STAINLESS STEEL, 12 GAUGE.**
- C. MANUFACTURERS:**
- B-LINE SYSTEMS, INC.
  - UNISTRUT CORP.
  - APPROVED EQUIVALENT.
- 2.11 NAMEPLATES**
- A. MATERIAL: LAMINATED PLASTIC.**
- B. ATTACHMENT: ADHESIVE.**
- C. COLOR: BLACK, ENGRAVED TO A WHITE CORE, OR AS SHOWN.**
- D. NAMEPLATES SHALL BE PROVIDED ON ALL ELECTRICAL DEVICES, INCLUDING BUT NOT LIMITED TO MOTOR CONTROL EQUIPMENT, PANELBOARDS, CONTROL STATIONS, JUNCTION BOXES, PANELS, MOTOR STARTERS, INSTRUMENTS, DISCONNECT SWITCHES, INDICATING LIGHTS, METERS, FIRE ALARM PANELS/DEVICES, AND ALL ELECTRICAL EQUIPMENT ENCLOSURES.**
- E. NAMEPLATES SHALL ALSO BE PROVIDED ON ALL ELECTRICAL PANEL INTERIOR EQUIPMENT, INCLUDING BUT NOT LIMITED TO RELAYS, CIRCUIT BREAKERS, POWER SUPPLIES, TERMINALS, CONTRACTORS, AND OTHER DEVICES.**
- F. EQUIPMENT NAMEPLATES SHALL HAVE BOTH THE EQUIPMENT NAME AND TAG NUMBER.**
- G. NAMEPLATES ON THE INTERIOR OF PANELS AND FIRE ALARM NOTIFICATION/DETECTION DEVICES SHALL BE WHITE POLYESTER WITH PRINTED THERMAL TRANSFER LETTERING AND PERMANENT PRESSURE SENSITIVE ACRYLIC TYTON 822 OR EQUAL. ALL NAMEPLATES SHALL INCLUDE THE EQUIPMENT NAME AND NUMBER (AND FUNCTION, IF APPLICABLE).**
- H. NAMEPLATES SHALL BE SECURED TO EQUIPMENT WITH STAINLESS STEEL SCREWS/FASTENERS.**
- I. NAMEPLATES FOR DISCONNECT SWITCHES SHALL CONTAIN NAME AND NUMBER, SOURCE TAG NUMBER, AS WELL AS VOLTAGE, PHASES AND COLORS OF CONDUCTORS.**
- J. LETTER HEIGHT:**
- PUSHBUTTONS, SELECTOR SWITCHES, AND OTHER DEVICES: 1/8 INCH.
  - EQUIPMENT AND PANELBOARDS: 1/4 INCH.
- 2.12 CONDUIT, FITTINGS, AND ACCESSORIES**
- A. ELECTRICAL METALLIC TUBING (EMT):**
- MEET REQUIREMENTS OF NEMA C80.3 AND UL 797.
  - MATERIAL: HOT-DIP GALVANIZED, WITH CHROMATED AND LACQUERED PROTECTIVE LAYER.
- B. PVC SCHEDULE 40 OR 80 CONDUIT:**
- MEET REQUIREMENTS OF NEMA TC 2 AND UL 651.
  - UL LISTED FOR CONCRETE ENCASEMENT, UNDERGROUND DIRECT BURIAL, CONCEALED, OR DIRECT SUNLIGHT EXPOSURE, AND 90 DEGREES C INSULATED CONDUCTORS.
- C. RIGID GALVANIZED STEEL CONDUIT (RGS):**
- MEET REQUIREMENTS OF NEMA C80.1 AND UL 6.
  - MATERIAL: HOT-DIPPED GALVANIZED, WITH CHROMATIC PROTECTIVE LAYER.
- D. PVC-COATED RIGID GALVANIZED STEEL CONDUIT:**
- MEET REQUIREMENTS OF NEMA RM 1.
  - MATERIAL:
    - MEET REQUIREMENTS OF NEMA C80.1 AND UL 6.
    - EXTERIOR FINISH: PVC COATING, 40 MILS NOMINAL THICKNESS, BOND TO METAL SHALL HAVE TENSILE STRENGTH GREATER THAN PVC.
  - INTERIOR FINISH: URETHANE COATING, 2 MILS NOMINAL THICKNESS.
  - THREADS: HOT-DIPPED GALVANIZED AND FACTORY COATED WITH URETHANE.
  - BENDABLE WITHOUT DAMAGE TO EITHER INTERIOR OR EXTERIOR COATING.
- E. FLEXIBLE METAL, LIQUID-TIGHT CONDUIT:**
- UL 360 LISTED FOR 105 DEGREES C INSULATED CONDUCTORS.
  - MATERIAL: GALVANIZED STEEL, WITH AN EXTRUDED PVC JACKET.
- F. FITTINGS:**
- PROVIDE BUSHINGS, GROUNDING BUSHINGS, CONDUIT HUBS, CONDUIT BODIES, COUPLINGS, UNIONS, EXPANSION FITTINGS, AND CABLE SEALING FITTINGS, AS APPLICABLE.
  - ELECTRICAL METALLIC TUBING:
    - MEET REQUIREMENTS OF UL 514B.
    - TYPE: STEEL BODY AND LOCKNUTS WITH STEEL OR MALLEABLE IRON COMPRESSION NUTS. SETSCREW AND DRIVE-ON FITTINGS NOT PERMITTED.
    - ELECTRO ZINC-PLATED INSIDE AND OUT.
    - RAINTIGHT.
  - RIGID GALVANIZED STEEL (RGS):
    - MEET REQUIREMENTS OF UL 514B.
    - TYPE: THREADED, GALVANIZED.
  - PVC CONDUIT:
    - MEET REQUIREMENTS OF NEMA TC 3.
    - TYPE: PVC, SLIP-ON.
  - PVC-COATED RIGID GALVANIZED STEEL CONDUIT:
    - MEET REQUIREMENTS OF UL 514B.
    - FITTINGS: RIGID GALVANIZED STEEL TYPE, PVC-COATED BY CONDUIT MANUFACTURER.
    - CONDUIT BODIES: CAST METAL HOT-DIPPED GALVANIZED OR URETHANE FINISH. COVER SHALL BE OF SAME MATERIAL AS CONDUIT BODY. PVC-COATED BY CONDUIT MANUFACTURER.
    - FINISH: 40-MIL PVC EXTERIOR, 2-MIL URETHANE INTERIOR.
    - OVERLAPPING PRESSURE SEALING SLEEVES.
    - CONDUIT HANGERS, ATTACHMENTS, AND ACCESSORIES: PVC-COATED.
  - MANUFACTURERS:
    - ROBROY INDUSTRIES.
    - OICAL.
    - PLASTI-BOND.
    - APPROVED EQUIVALENT.
  - EXPANSION FITTING MANUFACTURER AND PRODUCT: OCAL; OCAL-BLUE XIG.
- 6. FLEXIBLE METAL, LIQUID-TIGHT CONDUIT:**
- METAL INSULATED THROAT CONNECTORS WITH INTEGRAL NYLON OR PLASTIC BUSHING RATED FOR 105 DEGREES C.
  - INSULATED THROAT AND SEALING O-RINGS.
- G. CONDUIT ACCESSORIES:**
- DUCT BANK SPACERS:
    - TYPE NON-METALLIC, INTERLOCKING, FOR MULTIPLE CONDUIT SIZES.
    - SUITABLE FOR ALL TYPES OF CONDUIT.
  - MANUFACTURERS:
    - UNDERGROUND DEVICE, INC.
    - CARLON.
    - APPROVED EQUIVALENT.
  - IDENTIFICATION DEVICES:
    - RACEWAY TAGS:
      - MATERIAL: PERMANENT, NON-FERROUS METAL.
      - SHAPE: ROUND.
      - RACEWAY DESIGNATION: PRESSURE STAMPED, EMBOSSED, OR ENGRAVED.
      - TAGS RELYING ON ADHESIVES OR TAPED-ON MARKERS NOT PERMITTED.
    - WARNING TAPE:
      - MATERIAL: POLYETHYLENE, 4-MIL GAUGE WITH DETECTABLE STRIP.
      - COLOR: RED.
      - WIDTH: MINIMUM 6 INCHES.
      - DESIGNATION: WARNING ON TAPE THAT ELECTRIC CIRCUIT IS LOCATED BELOW TAPE.
      - IDENTIFYING LETTERS: MINIMUM 1-INCH HIGH PERMANENT BLACK LETTERING IMPRINTED CONTINUOUSLY OVER ENTIRE LENGTH.
  - RACEWAY BAND:
    - SLIP-ON TYPE:
      - PROVIDE HEAT-SHRINKABLE, BLACK, MEDIUM-WALL POLYOLEFIN TUBING WITH FACTORY-APPLIED ADHESIVE/SEALANT. SELECT PRODUCT SIZE BASED UPON RACEWAY OUTSIDE DIAMETER.
    - MANUFACTURER AND PRODUCT: 3M; TYPE IMCSN, MEDIUM WALL CABLE SLEEVE.
  - WRAP-AROUND TYPE:
    - PROVIDE 4-INCH WIDTH, 20-MIL THICKNESS, NON-PRINTED BLACK PVC CORROSION PROTECTION TAPE WITH PRIMER.
    - MANUFACTURER AND PRODUCT: 3M; TYPE SCOTCHRAP 51 WITH SCOTCHRAP PIPE PRIMER OR APPROVED EQUIVALENT.
- 2.13 CONDUCTORS, CABLES, AND ACCESSORIES**
- A. CONDUCTORS 600 VOLTS AND BELOW:**
- CONFORM TO APPLICABLE REQUIREMENTS OF NEMA WC 71, WC 72, AND WC 74.
  - CONDUCTOR TYPE:
    - ALL CIRCUITS: STRANDED COPPER.
    - INSULATION: TYPE THHN/THWN, EXCEPT FOR SIZES NO. 6 AND LARGER, WITH XHHW-2 INSULATION.
- B. 600-VOLT RATED CABLE:**
- GENERAL:
    - TYPE TC, MEETING REQUIREMENTS OF UL 1277, INCLUDING VERTICAL TRAY FLAME TEST AT 20,000 BTU PER HOUR, AND NFPA 70, ARTICLE 340, OR UL 13 MEETING REQUIREMENTS OF NFPA 70, ARTICLE 725.
    - PERMANENTLY AND LEGIBLY MARKED WITH MANUFACTURER'S NAME, MAXIMUM WORKING VOLTAGE FOR WHICH CABLE WAS TESTED, TYPE OF CABLE, AND UL LISTING MARK.
    - SUITABLE FOR INSTALLATION IN OPEN AIR, IN CABLE TRAYS, OR CONDUIT.
    - MINIMUM TEMPERATURE RATING: 90 DEGREES C DRY LOCATIONS, 75 DEGREES C WET LOCATIONS.
    - OVERALL OUTER JACKET: PVC, FLAME-RETARDANT, SUNLIGHT- AND OIL-RESISTANT.
  - TYPE TSP, NO. 16 AWG, TWISTED, SHIELDED PAIR, INSTRUMENTATION CABLE: SINGLE PAIR, DESIGNED FOR NOISE REJECTION FOR PROCESS CONTROL, COMPUTER OR DATA LOG APPLICATIONS MEETING NEMA WC 55 REQUIREMENTS.
    - OUTER JACKET: 45 MILS NOMINAL THICKNESS.
    - INDIVIDUAL PAIR SHIELD: 1.35 MILS, DOUBLE-FACED ALUMINUM/SYNTHETIC POLYMER OVERLAPPED TO PROVIDE 100 PERCENT COVERAGE.
    - DIMENSION: 0.31-INCH NOMINAL OUTSIDE DIAMETER.
  - CONDUCTORS:
    - BARE SOFT ANNEALED COPPER, CLASS B, SEVEN-STRAND CONCENTRIC, MEETING REQUIREMENTS OF ASTM B8.
    - 20 AWG, SEVEN-STRAND TINNED COPPER DRAIN WIRE
    - INSULATION: 15 MILS NOMINAL PVC.
    - JACKET: 4 MILS NOMINAL NYLON.
    - COLOR CODE: PAIR CONDUCTORS BLACK AND RED.
  - MANUFACTURERS: OKONITE CO. OR APPROVED EQUIVALENT.
- C. ACCESSORIES:**
- TAPE:
    - GENERAL PURPOSE, FLAME RETARDANT: 7 MILS, VINYL PLASTIC, SCOTCH BRAND 33, RATED FOR 90 DEGREES C MINIMUM, MEETING REQUIREMENTS OF UL 510.
    - FLAME RETARDANT, COLD AND WEATHER RESISTANT: 8.5 MILS, VINYL PLASTIC, SCOTCH BRAND 88.
  - ARC AND FIREPROOFING:
    - 30 MILS, ELASTOMER.
    - MANUFACTURERS AND PRODUCTS:
      - 3M; SCOTCH BRAND 77, WITH SCOTCH BRAND 69 GLASS CLOTH TAPEBINDER.
      - PLYMOUNT; PLYARC 53, WITH PLYGLAS 77 GLASS CLOTH TAPEBINDER.
      - APPROVED EQUIVALENT.
  - IDENTIFICATION DEVICES:
    - SLEEVE-TYPE, PERMANENT, PVC, YELLOW OR WHITE, WITH LEGIBLE MACHINE-PRINTED BLACK MARKINGS.
    - MANUFACTURER AND PRODUCTS: RAYCHEM; TYPE D-SCE OR ZH-SCE OR APPROVED EQUIVALENT.
  - CONNECTORS AND TERMINATIONS:
    - NYLON, SELF-INSULATED CRIMP CONNECTORS:
      - MANUFACTURERS AND PRODUCTS:
        - THOMAS & BETTS; STA-KON.
        - BURNDY; INSULUG.
        - ILSCO.
        - APPROVED EQUIVALENT.
    - SELF-INSULATED, FRESPREING WIRE CONNECTOR (WIRE NUTS):
      - PLATED STEEL, SQUARE WIRE SPRINGS.
      - UL STANDARD 486C.
    - MANUFACTURERS AND PRODUCTS:
      - THOMAS & BETTS.
      - IDEAL; TWISTER.
      - APPROVED EQUIVALENT.
  - CABLE LUGS:
    - IN ACCORDANCE WITH NEMA CC 1.
    - RATED 600 VOLTS OF SAME MATERIAL AS CONDUCTOR METAL.
  - UNINSULATED CRIMP CONNECTORS AND TERMINATORS:
    - SUITABLE FOR USE WITH 75 DEGREES C WIRE AT FULL NFPA 70, 75 DEGREES C AMPACITY.
    - MANUFACTURERS AND PRODUCTS:
      - THOMAS & BETTS; COLOR-KEYED.
      - BURNDY; HYDENT.
      - ILSCO.
      - APPROVED EQUIVALENT.
  - UNINSULATED, BOLTED, TWO-WAY CONNECTORS AND TERMINATORS:
    - MANUFACTURERS AND PRODUCTS:
      - THOMAS & BETTS; LOCKTITE.
      - BURNDY; QUIKLUK.
      - ILSCO.
      - APPROVED EQUIVALENT.
  - CABLE TIES:
    - NYLON, ADJUSTABLE, SELF-LOCKING AND REUSABLE.
- b. MANUFACTURER AND PRODUCT: THOMAS & BETTS; TY-RAP OR APPROVED EQUIVALENT.**
- 7. HEAT SHRINKABLE INSULATION:**
- THERMALLY STABILIZED, CROSSLINKED POLYOLEFIN.
  - MANUFACTURER AND PRODUCT: THOMAS & BETTS; SHRINK-KON OR APPROVED EQUIVALENT.
- 2.14 GROUNDING**
- A. GROUND RODS: PROVIDE COPPER WITH MINIMUM DIAMETER OF 3/4-INCH, AND LENGTH OF 10 FEET.**
- B. GROUND CONDUCTORS: AS SPECIFIED IN ARTICLE CONDUCTORS AND CABLE.**
- C. CONNECTORS:**
- EXOTHERMIC WELD TYPE:
    - OUTDOOR WELD: SUITABLE FOR EXPOSURE TO ELEMENTS OR DIRECT BURIAL.
    - INDOOR WELD: UTILIZE LOW-SMOKE, LOW-EMISSION PROCESS.
  - MANUFACTURERS:
    - ERICO PRODUCTS, INC.; CADWELD AND CADWELD EXOLON.
    - THERMOWELD.
    - APPROVED EQUIVALENT.
  - COMPRESSION TYPE:
    - COMPRESS-DEFORMING TYPE; WROUGHT COPPER EXTRUSION MATERIAL.
    - SINGLE INDENTATION FOR CONDUCTORS 6 AWG AND SMALLER.
    - DOUBLE INDENTATION WITH EXTENDED BARREL FOR CONDUCTORS 4 AWG AND LARGER.
    - SINGLE BARRELS PREFILLED WITH OXIDE-INHIBITING AND ANTI-SEIZING COMPOUND.
  - MANUFACTURERS:
    - BURNDY CORP.
    - THOMAS AND BETTS CO.
    - ILSCO.
    - APPROVED EQUIVALENT.
  - MECHANICAL TYPE:
    - SPLIT-BOLT, SADDLE, OR CONE SCREW TYPE; COPPER ALLOY MATERIAL.
    - MANUFACTURERS:
      - BURNDY CORP.
      - APPROVED EQUIVALENT.
- 2.15 LIGHTING AND POWER DISTRIBUTION PANELBOARDS**
- A. MATERIALS, EQUIPMENT, AND ACCESSORIES SPECIFIED IN THIS SECTION SHALL BE PRODUCTS OF:**
- EATON.
  - SCHNEIDER ELECTRIC.
  - GENERAL ELECTRIC CO.
  - APPROVED EQUIVALENT.
- B. PROVIDE EQUIPMENT IN ACCORDANCE WITH NEMA PB 1, NFPA 70, AND UL 67.**
- C. WIRE TERMINATIONS:**
- PANELBOARD ASSEMBLIES, INCLUDING PROTECTIVE DEVICES, SHALL BE SUITABLE FOR 75°C OR GREATER WIRE INSULATION SYSTEMS AT NEC 75°C CONDUCTOR AMPACITY.
  - IN ACCORDANCE WITH UL 486C.
- D. LOAD CURRENT RATINGS:**
- UNLESS OTHERWISE INDICATED, LOAD CURRENT RATINGS FOR PANELBOARD ASSEMBLIES, INCLUDING BUS AND CIRCUIT BREAKERS, ARE NON-CONTINUOUS AS DEFINED BY NEC. CONTINUOUS RATING SHALL BE 80 PERCENT OF NON-CONTINUOUS RATING.
  - WHERE INDICATED "CONTINUOUS", "100 PERCENT", ETC., SELECTED COMPONENTS AND PROTECTIVE DEVICES SHALL BE RATED FOR CONTINUOUS LOAD CURRENT AT VALUE SHOWN.
- E. SHORT CIRCUIT CURRENT RATING (SCCR): INTEGRATED EQUIPMENT SHORT CIRCUIT CURRENT RATING FOR EACH PANELBOARD ASSEMBLY SHALL BE NO LESS THAN THE FOLLOWING:**
- MINIMUM SCCR AT 480/277 VOLTS SHALL BE 18,000 AMPERES RMS SYMMETRICAL.
  - MINIMUM SCCR AT 208/120 VOLTS SHALL BE 18,000 AMPERES RMS SYMMETRICAL.
- F. OVERCURRENT PROTECTIVE DEVICES:**
- IN ACCORDANCE WITH NEMA AB 1, NEMA KS 1, UL 98, UL 489.
  - PROTECTIVE DEVICES SHALL BE ADAPTED TO PANELBOARD INSTALLATION.
    - CAPABLE OF DEVICE REPLACEMENT WITHOUT DISTURBING ADJACENT DEVICES AND WITHOUT REMOVING MAIN BUS.
    - SPACES: COVER OPENINGS WITH EASILY REMOVABLE COVER.
  - DEVICES SHALL BE FULLY RATED, SERIES-CONNECTED RATINGS UNACCEPTABLE.
- G. CIRCUIT BREAKERS:**
- GENERAL: THERMAL-MAGNETIC UNLESS OTHERWISE INDICATED, QUICK-MAKE, QUICK-BREAK, MOLDED CASE, OF INDICATED TYPE SHOWING ON/OFF AND TRIPPED POSITION ON OPERATING HANDLE.
  - NON-INTERCHANGEABLE; IN ACCORDANCE WITH NEC.
  - BUS CONNECTION: BOLT-ON CIRCUIT BREAKERS.
  - TRIP MECHANISM:
    - INDIVIDUAL PERMANENT THERMAL AND MAGNETIC TRIP ELEMENTS IN EACH POLE.

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| DESIGNED: CB | DATE: 2025             |
| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-002 |



CITY OF BOISE  
ODOR CONTROL

ELECTRICAL  
SPECIFICATIONS

SHEET: E-002  
PROJECT NUMBER:



**DC ENGINEERING**  
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b. VARIABLE MAGNETIC TRIP ELEMENTS WITH A SINGLE CONTINUOUS ADJUSTMENT 3X TO 10X FOR FRAMES GREATER THAN 100 AMPS.  
c. TWO AND THREE POLE, COMMON TRIP.  
d. AUTOMATICALLY OPENS ALL POLES WHEN OVERCURRENT OCCURS ON ONE POLE.  
e. TEST BUTTON ON COVER.  
f. CALIBRATED FOR 40 DEGREES C AMBIENT, UNLESS SHOWN OTHERWISE.  
5. UNACCEPTABLE SUBSTITUTIONS:  
a. DO NOT SUBSTITUTE SINGLE-POLE CIRCUIT BREAKERS WITH HANDLE TIES FOR MULTI-POLE BREAKERS.  
b. DO NOT USE TANDEM OR DUAL CIRCUIT BREAKERS IN NORMAL SINGLE-POLE SPACES.  
6. GROUND FAULT INTERRUPTER (GFI): WHERE INDICATED, EQUIP BREAKER AS SPECIFIED ABOVE GROUND FAULT SENSOR AND RATED TO TRIP ON 5mA GROUND FAULT WITHIN 0.025 SECOND (UL 943, CLASS A SENSITIVITY, FOR PROTECTION OF PERSONNEL).  
a. GROUND FAULT SENSOR SHALL BE RATED SAME AS CIRCUIT BREAKER.  
b. PUSH-TO-TEST BUTTON.  
c. RESET BUTTON.  
7. EQUIPMENT GROUND FAULT INTERRUPTER (EGFI): WHERE INDICATED, EQUIP BREAKER SPECIFIED ABOVE WITH GROUND FAULT SENSOR AND RATED TO TRIP ON 30mA GROUND FAULT (UL LISTED FOR EQUIPMENT GROUND FAULT PROTECTION).

H. CABINET:  
1. NEMA 250, TYPE 1.  
2. MATERIAL: CODE-GAUGE, HOT-DIPPED GALVANIZED SHEET STEEL WITH REINFORCED STEEL FRAME.  
3. WIRING GUTTER: MINIMUM 4 INCH SQUARE: BOTH SIDES, TOP AND BOTTOM.  
4. FRONT: FASTENED WITH ADJUSTABLE CLAMPS.  
a. TRIM SIZE: AS REQUIRED BY MOUNTING.  
b. FINISH: MANUFACTURER'S STANDARD.  
5. INTERIOR:  
a. FACTORY ASSEMBLED: COMPLETE WITH CIRCUIT BREAKERS.  
b. SPACES: COVER OPENINGS WITH EASILY REMOVABLE METAL COVER.  
6. DOOR HINGES: CONCEALED.  
7. LOCKING DEVICE:  
a. FLUSH TYPE.  
b. DOORS OVER 30 INCHES IN HEIGHT: MULTIPOINT.  
c. IDENTICAL KEYLOCKS, WITH TWO MILLED KEYS EACH LOCK.  
8. CIRCUIT DIRECTORY: TRANSPARENT PLASTIC FACE AND TYPED, ENCLOSED CARD ON INTERIOR DOOR.

I. BUS:  
1. MATERIAL: TIN-PLATED COPPER FULL SIZED THROUGHOUT.  
2. PROVIDE FOR MOUNTING OF FUTURE PROTECTIVE DEVICES ALONG FULL LENGTH OF BUS REGARDLESS OF NUMBER OF UNITS AND SPACES SHOWN. MACHINE, DRILL, AND TAP AS REQUIRED FOR CURRENT AND FUTURE POSITIONS.

J. FEEDER LUGS: MAIN, FEED-THROUGH, AND NEUTRAL SHALL BE REPLACEABLE, BOLTED MECHANICAL OR CRIMP COMPRESSION TYPE.

K. EQUIPMENT GROUND TERMINAL BUS: COPPER WITH SUITABLY SIZED PROVISIONS FOR TERMINATION OF GROUND CONDUCTORS, AND BONDED TO BOX.  
1. PROVIDE INDIVIDUAL MECHANICAL TERMINATION POINTS NO LESS THAN THE QUANTITY OF BREAKER POSITIONS.  
2. PROVIDE INDUSTRIAL TERMINATION POINTS FOR ALL OTHER GROUNDING CONDUCTORS SUCH AS FEEDER, GROUNDING ELECTRODE, ETC.

L. NEUTRAL TERMINAL BUS: COPPER WITH SUITABLY SIZED PROVISIONS FOR TERMINATION OF NEUTRAL CONDUCTORS, AND ISOLATED FROM BOX.  
1. PROVIDE INDUSTRIAL MECHANICAL TERMINATION POINTS NO LESS THAN THE QUANTITY OF BREAKER POLE POSITIONS.  
2. PROVIDE INDUSTRIAL TERMINATION POINTS FOR ALL OTHER NEUTRAL CONDUCTORS.

M. PROVISION FOR FUTURE DEVICES: EQUIP WITH MOUNTING BRACKETS, BUS CONNECTIONS, AND NECESSARY APPURTENANCES FOR FUTURE PROTECTIVE DEVICE AMPERE RATINGS INDICATED.

2.16 MINI POWER CENTER  
A. GENERAL: TRANSFORMER, PRIMARY AND SECONDARY MAIN CIRCUIT BREAKERS, AND SECONDARY PANELBOARD ENCLOSED IN NEMA 250, TYPE 3R ENCLOSURE.  
B. TRANSFORMER:  
1. TYPE: DRY, SELF-COOLED, ENCAPSULATED.  
2. INSULATION: MANUFACTURER'S STANDARD, WITH UL 1561 TEMPERATURE RISE.  
3. FULL CAPACITY, 2-1/2 PERCENT VOLTAGE TAPS, TWO ABOVE AND TWO BELOW NORMAL VOLTAGE.  
4. PRIMARY VOLTAGE: 480 VOLTS, SINGLE PHASE.  
5. SECONDARY VOLTAGE: 240/120 VOLTS, SINGLE PHASE.  
C. PANELBOARD: UL 489, FULLY-RATED.  
1. TYPE: THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, INDICATING, WITH NON-INTERCHANGEABLE MOLDED CASE CIRCUIT BREAKERS.

2. NUMBER AND BREAKER AMPERE RATINGS: REFER TO PANELBOARD SCHEDULE.  
D. MANUFACTURERS:  
1. EATON.  
2. GENERAL ELECTRIC CO.  
3. SCHNEIDER ELECTRIC.  
4. APPROVED EQUIVALENT.

2.17 ELECTRICAL SYSTEM ANALYSIS  
A. THE CONTRACTOR SHALL COMPLETE AN ARC FLASH STUDY IN ACCORDANCE WITH NFPA 70E, OSHA 29 CFR, PART 1910 SUBPART S, AND IEEE 1584 BASED ON THE FOLLOWING:  
1. INSTALLED EQUIPMENT TYPES AND NAMEPLATE DATA.  
2. SIZE AND TYPES OF CONDUCTOR, CONDUIT TYPES, AND LENGTHS.  
3. OVERCURRENT PROTECTIVE DEVICE INFORMATION INCLUDING ACTUAL CATALOG NUMBERS, RATINGS, AND AVAILABLE TRIP SETTINGS.  
4. TRANSFORMER INFORMATION INCLUDING TYPE, CONNECTIONS, POWER RATINGS, AND IMPEDANCE.  
5. LOAD NAMEPLATE DATA.  
B. PERFORM STUDIES USING ONE OF THE FOLLOWING ELECTRICAL ENGINEERING SOFTWARE'S:  
1. SKM POWER TOOLS FOR WINDOWS.  
2. ETAP.  
3. EDSA.  
4. EASY POWER.  
C. BASE CALCULATIONS:  
1. FLASH HAZARD PROTECTION BOUNDARY.  
2. LIMITED APPROACH BOUNDARY.  
3. RESTRICTED APPROACH BOUNDARY.  
4. PROHIBITED APPROACH BOUNDARY.  
5. INCIDENT ENERGY LEVEL.  
6. PERSONAL PROTECTION EQUIPMENT (PPE) HAZARD/RISK CATEGORY.  
7. TYPE OF PPE REQUIRED.  
D. PRODUCE ADHESIVE BACKED ARC FLASH WARNING LABELS THAT LIST ITEMS IN BASE CALCULATIONS, AND THE FOLLOWING ADDITIONAL ITEMS:  
1. BUS NAME.  
2. BUS VOLTAGE.  
E. INSTALL ARC FLASH WARNING LABELS ON PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND OTHER APPLICABLE POWER SYSTEM ELEMENTS PRIOR TO SUBSTANTIAL COMPLETION.

PART 3 EXECUTION  
3.01 GENERAL  
A. INSTALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.  
B. INSTALL WORK IN ACCORDANCE TO NECA STANDARD OF INSTALLATION UNLESS OTHERWISE SPECIFIED.  
C. ELECTRICAL DRAWINGS SHOW GENERAL LOCATIONS OF EQUIPMENT, DEVICES, AND RACEWAY, UNLESS SPECIFICALLY DIMENSIONED.  
3.02 DEMOLITION (WHERE APPLICABLE)  
A. GENERAL DEMOLITION:  
1. WHERE SHOWN, DE-ENERGIZE AND DISCONNECT NONELECTRICAL EQUIPMENT FOR REMOVAL BY OTHERS.  
2. WHERE SHOWN, DE-ENERGIZE, DISCONNECT, AND REMOVE ELECTRICAL EQUIPMENT.  
3.03 PROTECTION FOLLOWING INSTALLATION  
A. PROTECT MATERIALS AND EQUIPMENT FROM CORROSION, PHYSICAL DAMAGE, AND EFFECTS OF MOISTURE ON INSULATION.  
B. CAP CONDUIT RUNS DURING CONSTRUCTION WITH MANUFACTURED SEALS.  
C. CLOSE OPENINGS IN BOXES OR EQUIPMENT DURING CONSTRUCTION.  
3.04 JUNCTION AND PULL BOXES  
A. INSTALL WHERE SHOWN AND/OR WHERE NECESSARY TO TERMINATE, TAP-OFF OR REDIRECT MULTIPLE CONDUIT RUNS.  
B. INSTALL PULL BOXES WHERE NECESSARY IN RACEWAY SYSTEM TO FACILITATE CONDUCTOR INSTALLATION.  
C. INSTALL IN CONDUIT RUNS AT LEAST EVERY 150 FEET OR AFTER THE EQUIVALENT OF THREE RIGHT-ANGLE BENDS.  
D. USE OUTLET BOXES AS JUNCTION AND PULL BOXES WHEREVER POSSIBLE AND ALLOWED BY APPLICABLE CODES.  
E. USE CONDUIT BODIES AS JUNCTION AND PULL BOXES WHERE NO SPLICES ARE REQUIRED AND THEIR USE IS ALLOWED BY APPLICABLE CODES.  
F. INSTALLED BOXES SHALL BE ACCESSIBLE.  
G. INSTALL IMBEDDED TO FINISHED SURFACES.  
H. INSTALL PLUMB AND LEVEL.  
I. SUPPORT BOXES INDEPENDENTLY OF CONDUIT BY ATTACHMENT TO BUILDING STRUCTURE OR STRUCTURAL MEMBER.  
J. AT OR BELOW GRADE:  
1. INSTALL BOXES FOR BELOW GRADE CONDUIT FLUSH WITH FINISHED GRADE IN LOCATIONS OUTSIDE OF PAVED AREAS, ROADWAYS OR WALKWAYS.  
2. IF ADJACENT STRUCTURE IS AVAILABLE, BOX MAY BE MOUNTED ON STRUCTURE SURFACE JUST ABOVE FINISHED GRADE IN ACCESSIBLE BUT UNOBTRUSIVE LOCATION.  
3. OBTAIN OWNER'S WRITTEN ACCEPTANCE PRIOR TO INSTALLATION IN PAVED AREAS, ROADWAYS, OR WALKWAYS.  
4. USE BOXES AND COVER SUITABLE TO SUPPORT ANTICIPATED WEIGHTS.  
K. FLUSH MOUNTED:  
1. INSTALL WITH CONCEALED CONDUIT.

2. HOLES IN SURROUNDING SURFACE SHALL BE NO LARGER THAN REQUIRED TO RECEIVE BOX.  
3. MAKE EDGES OF BOXES FLUSH WITH FINAL SURFACE.  
L. MOUNTING HARDWARE:  
1. NONCORROSIVE INDOOR DRY AREAS: GALVANIZED.  
2. OUTDOOR OR NONCORROSIVE INDOOR WET AREAS: STAINLESS STEEL.  
3. CORROSIVE AREAS: STAINLESS STEEL.

3.05 DEVICE PLATES  
A. SECURELY FASTEN TO WIRING DEVICE; ENSURE A TIGHT FIT TO BOX.  
B. FLUSH MOUNTED: INSTALL WITH ALL FOUR EDGES IN CONTINUOUS CONTACT WITH FINISHED WALL SURFACES WITHOUT USE OF MATS OR SIMILAR MATERIALS. PLASTER FILLINGS WILL NOT BE ACCEPTABLE.  
C. SURFACE MOUNTED: PLATE SHALL NOT EXTEND BEYOND SIDES OF BOX, UNLESS PLATES HAVE NO SHARP CORNERS OR EDGES.  
D. INSTALL WITH ALIGNMENT TOLERANCE TO BOX OF 1/16 INCH.  
E. ENGRAVE WITH DESIGNATED TITLES IDENTIFYING THE CIRCUIT NUMBER ASSOCIATED WITH THAT DEVICE.  
F. TYPES (UNLESS OTHERWISE SHOWN):  
1. OUTDOOR: WEATHERPROOF.  
2. INDOOR:  
a. FLUSH MOUNTED BOXES: METAL.  
b. SURFACE MOUNTED, METAL BOXES: CAST.  
3.06 SUPPORT AND FRAMING CHANNELS  
A. INSTALL WHERE REQUIRED FOR MOUNTING AND SUPPORTING ELECTRICAL EQUIPMENT AND RACEWAY SYSTEMS.  
B. CHANNEL TYPE:  
1. INTERIOR, WET OR DRY NONCORROSIVE LOCATIONS: CARBON STEEL.  
2. INTERIOR, WET OR DRY CORROSIVE LOCATIONS: TYPE 316 STAINLESS STEEL.  
3. OUTDOOR LOCATIONS: TYPE 316 STAINLESS STEEL.  
C. PAINT CARBON STEEL CHANNEL CUT ENDS PRIOR TO INSTALLATION WITH ZINC-RICH PRIMER.  
3.07 NAMEPLATES, SIGNS, AND LABELS  
A. ARC FLASH PROTECTION WARNING SIGNS:  
1. FIELD MARK PANELBOARDS TO WARN QUALIFIED PERSONS OF POTENTIAL ARC-FLASH HAZARDS, LOCATE MARKINGS SO TO BE CLEARLY VISIBLE TO PERSONS BEFORE WORKING ON ENERGIZED EQUIPMENT.  
2. USE ARC FLASH HAZARD BOUNDARY, ENERGY LEVEL, PPE LEVEL AND DESCRIPTION, SHOCK HAZARD, BOLTED FAULT CURRENT, AND EQUIPMENT NAME FROM ENGINEER AS BASIS FOR WARNING SIGNS.  
3. ENGINEER TO PROVIDE ARC FLASH WARNING SIGNS. CONTRACTOR SHALL COORDINATE WITH ENGINEER.  
B. EQUIPMENT NAMEPLATES:  
1. PROVIDE A NAMEPLATE TO LABEL ELECTRICAL EQUIPMENT INCLUDING PANELBOARDS, MOTOR STARTERS, TRANSFORMERS, TERMINAL JUNCTION BOXES, DISCONNECT SWITCHES, SWITCHES AND CONTROL STATIONS.  
2. TRANSFORMER AND TERMINAL JUNCTION BOX NAMEPLATES SHALL INCLUDE EQUIPMENT DESIGNATION.  
3. DISCONNECT SWITCH, STARTER, AND CONTROL STATION NAMEPLATES SHALL INCLUDE NAME AND NUMBER OF EQUIPMENT POWERED OR CONTROLLED BY THAT DEVICE.  
4. PANELBOARD NAMEPLATES SHALL INCLUDE EQUIPMENT DESIGNATION, SERVICE VOLTAGE, AND PHASES. HAND-WRITTEN PANEL SCHEDULE IS NOT PERMITTED.  
C. EQUIPMENT LABELS:  
1. EQUIPMENT LABELS SHALL BE INSTALLED ON THE OUTSIDE OF THE ELECTRICAL EQUIPMENT ENCLOSURE, CABINET, AND PANELS TO AVOID OPENING THE EQUIPMENT TO ACCESS THE MANUFACTURER'S DATA OR THE EQUIPMENT RATINGS.  
3.08 CONDUIT AND FITTINGS  
A. GENERAL:  
1. CRUSHED OR DEFORMED RACEWAYS NOT PERMITTED.  
2. MAINTAIN RACEWAY ENTIRELY FREE OF OBSTRUCTIONS AND MOISTURE.  
3. IMMEDIATELY AFTER INSTALLATION, PLUG OR CAP RACEWAY ENDS WITH WATERTIGHT AND DUST-TIGHT SEALS UNTIL TIME FOR PULLING IN CONDUCTORS.  
4. AVOID MOISTURE TRAPS WHERE POSSIBLE. WHEN UNAVOIDABLE IN EXPOSED CONDUIT RUNS, PROVIDE JUNCTION BOX AND DRAIN FITTING AT CONDUIT LOW POINT.  
a. PROVIDE CROUSE-HINDS OR EQUAL CONDUIT DRAIN. DRAINS TO BE INSTALLED IN HUBS OR DRILLED AND TAPPED OPENINGS. INSTALL DRAIN(S) AT THE LOWEST POINT OF THE CONDUIT RUN AND AT ANY POINT WHERE WATER MIGHT ACCUMULATE. IF CONDUIT RUN IS UNDERGROUND (OR TO ANY PLACE WHERE A DRAIN ISN'T FEASIBLE), CREATE A LOW POINT AHEAD OF THE ENTRY AND INSTALL DRAIN AT THAT LOCATION.  
5. GROUP RACEWAYS INSTALLED IN SAME AREA.  
6. BLOCK WALLS: DO NOT INSTALL RACEWAYS IN SAME HORIZONTAL COURSE WITH REINFORCING STEEL.  
7. INSTALL WATERTIGHT FITTINGS IN OUTDOOR, UNDERGROUND, OR WET LOCATIONS.  
8. PAINT THREADS AND CUT ENDS, BEFORE ASSEMBLY OF FITTINGS, GALVANIZED CONDUIT, PVC-COATED GALVANIZED CONDUIT, OR IMC INSTALLED IN EXPOSED

OR DAMP LOCATIONS WITH ZINC-RICH PAINT OR LIQUID GALVANIZING COMPOUND.  
9. METAL CONDUIT TO BE REAMED, BURRS REMOVED, AND CLEANED BEFORE INSTALLATION OF CONDUCTORS, WIRES, OR CABLES.  
10. DO NOT INSTALL RACEWAYS IN CONCRETE EQUIPMENT PADS, FOUNDATIONS, OR BEAMS.  
11. HORIZONTAL RACEWAYS INSTALLED UNDER FLOOR SLABS SHALL LIE COMPLETELY UNDER SLAB, WITH NO PART EMBEDDED WITHIN SLAB.  
12. INSTALL CONCEALED, EMBEDDED, AND BURIED RACEWAYS SO THAT THEY EMERGE AT RIGHT ANGLES TO SURFACE AND HAVE NO CURVED PORTION EXPOSED.  
13. INSTALL CONDUITS FOR FIBER OPTIC CABLES, TELEPHONE CABLES, AND CATEGORY 5 DATA CABLES IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF EIA/TIA 569.  
B. CONDUIT APPLICATION:  
1. MINIMUM DIAMETER: 3/4 INCH  
2. OUTDOOR, EXPOSED: RIGID GALVANIZED STEEL.  
3. INDOOR, EXPOSED: RIGID GALVANIZED STEEL  
4. ABOVE GROUND, EMBEDDED IN CONCRETE WALLS, CEILINGS, OR FLOORS: PVC SCHEDULE 40.  
5. DIRECT EARTH BURIAL: PVC SCHEDULE 40.  
a. 90° BENDS: PVC-COATED RIGID GALVANIZED STEEL UNDER SLABS-ON-GRADE: PVC SCHEDULE 40.  
6. CORROSIVE AREAS (IF APPLICABLE): PVC-COATED RIGID GALVANIZED STEEL.  
C. CONNECTIONS:  
1. FOR MOTORS, WALL, OR CEILING-MOUNTED FANS AND UNIT HEATERS, DRY TYPE TRANSFORMERS, ELECTRICALLY OPERATED VALVES, INSTRUMENTATION, AND OTHER EQUIPMENT WHERE FLEXIBLE CONNECTION IS REQUIRED TO MINIMIZE VIBRATION:  
a. WET OR CORROSIVE AREAS: FLEXIBLE METAL LIQUID-TIGHT.  
b. WET OR CORROSIVE AREAS: FLEXIBLE METAL LIQUID-TIGHT.  
c. LENGTH: 18 INCHES MINIMUM, 36 INCHES MAXIMUM. SUFFICIENT TO ALLOW MOVEMENT OR ADJUSTMENT OF EQUIPMENT.  
2. OUTDOOR AREAS: FLEXIBLE METAL, LIQUID-TIGHT CONDUIT.  
3. TRANSITION FROM UNDERGROUND OR CONCRETE EMBEDDED TO EXPOSED: PVC-COATED RIGID STEEL CONDUIT.  
4. UNDER EQUIPMENT MOUNTING PADS: PVC-COATED RIGID STEEL CONDUIT.  
D. PENETRATIONS:  
1. MAKE AT RIGHT ANGLES, UNLESS OTHERWISE SHOWN.  
2. NOTCHING OR PENETRATION OF STRUCTURAL MEMBERS, INCLUDING FOOTINGS AND BEAMS, NOT PERMITTED.  
3. FIRE-RATED WALLS, FLOORS, OR CEILINGS: FIRESTOP OPENINGS AROUND PENETRATIONS TO MAINTAIN FIRE-RESISTANCE RATING.  
4. CONCRETE WALLS, FLOORS, OR CEILINGS (ABOVEGROUND): PROVIDE NON-SHRINK GROUT DRY-PACK.  
5. ENTERING STRUCTURES:  
a. GENERAL: SEAL RACEWAY AT THE FIRST BOX OR OUTLET WITH OAKUM OR EXPANDABLE PLASTIC COMPOUND TO PREVENT THE ENTRANCE OF GASES OR LIQUIDS FROM ONE AREA TO ANOTHER.  
b. CONCRETE ROOF OR MEMBRANE WATERPROOFED WALL OR FLOOR: PROVIDE WATERTIGHT SEAL.  
c. HEATING, VENTILATING, AND AIR CONDITIONING EQUIPMENT:  
1) PENETRATE EQUIPMENT IN AREA ESTABLISHED BY MANUFACTURER.  
2) TERMINATE CONDUIT WITH FLEXIBLE METAL CONDUIT AT JUNCTION BOX OR CONDUIT ATTACHED TO EXTERIOR SURFACE OF EQUIPMENT PRIOR TO PENETRATING EQUIPMENT.  
3) SEAL PENETRATION WITH JOINT SEALANT.  
d. CORROSIVE-SENSITIVE AREAS:  
1) SEAL ALL CONDUIT PASSING THROUGH CHLORINE ROOM WALLS.  
2) SEAL CONDUIT ENTERING EQUIPMENT PANELBOARDS AND FIELD PANELS CONTAINING ELECTRONIC EQUIPMENT.  
3) SEAL PENETRATION WITH JOINT SEALANT.  
e. EXISTING OR PRECAST WALL (UNDERGROUND): CORE DRILL WALL AND INSTALL WATERTIGHT ENTRANCE SEAL DEVICE.  
f. NON-WATERPROOFED WALL OR FLOOR (UNDERGROUND, WITHOUT CONCRETE ENCASUREMENT):  
1) PROVIDE SCHEDULE 40 GALVANIZED PIPE SLEEVE OR WATERTIGHT ENTRANCE SEAL DEVICE.  
2) FILL SPACE BETWEEN RACEWAY AND SLEEVE WITH EXPANDABLE PLASTIC COMPOUND OR OAKUM AND LEAD JOINT ON EACH SIDE.  
E. SUPPORT:  
1. SUPPORT FROM STRUCTURAL MEMBERS ONLY, AT INTERVALS NOT EXCEEDING NFPA 70 REQUIREMENTS, AND IN ANY CASE NOT EXCEEDING 8 FEET. DO NOT SUPPORT FROM PIPING, PIPE SUPPORTS, OR OTHER RACEWAYS.

2. APPLICATION/TYPE OF CONDUIT STRAP:  
a. STEEL CONDUIT: HOT-DIPPED GALVANIZED STEEL OR MALLEABLE IRON.  
b. PVC-COATED RIGID STEEL CONDUIT: PVC-COATED METAL.  
c. NONMETALLIC CONDUIT: NONMETALLIC OR PVC-COATED METAL.  
3. PROVIDE AND ATTACH WALL BRACKETS, STRAP HANGERS, OR CEILING TRAPEZE AS FOLLOWS:  
a. WOOD: WOOD SCREWS.  
b. HOLLOW MASONRY UNITS: TOGGLE BOLTS.  
c. CONCRETE OR BRICK: EXPANSION SHIELDS, OR THREADED STUDS DRIVEN IN BY POWDER CHARGE, WITH LOCK WASHERS AND NUTS.  
d. STEELWORK: MACHINE SCREWS.  
e. LOCATION/TYPE OF HARDWARE:  
1) DRY, NON-CORROSIVE AREAS: HOT-DIPPED GALVANIZED.  
2) WET, NON-CORROSIVE AREAS: STAINLESS STEEL.  
3) CORROSIVE AREAS: STAINLESS STEEL.  
F. BENDS:  
1. INSTALL CONCEALED RACEWAYS WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE.  
2. MAKE BENDS AND OFFSETS OF LONGEST PRACTICAL RADIUS. BENDS IN CONDUITS AND DUCTS BEING INSTALLED FOR FIBER OPTIC CABLES SHALL BE NOT LESS THAN 20 TIMES CABLE DIAMETER, 15 INCHES MINIMUM.  
3. INSTALL WITH SYMMETRICAL BENDS OR CAST METAL FITTINGS.  
4. AVOID FIELD-MADE BENDS AND OFFSETS, BUT WHERE NECESSARY, MAKE WITH ACCEPTABLE HICKEY OR BENDING MACHINE. DO NOT HEAT METAL RACEWAYS TO FACILITATE BENDING.  
5. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTER OR CENTERLINE WITH SAME RADIUS SO THAT BENDS ARE PARALLEL.  
6. FACTORY ELBOWS MAY BE INSTALLED IN PARALLEL OR BANKED RACEWAYS IF THERE IS CHANGE IN PLANE OF RUN AND RACEWAYS ARE SAME SIZE.  
7. PVC CONDUIT:  
a. BENDS 30 DEGREES AND LARGER: PROVIDE FACTORY-MADE ELBOWS.  
b. 90-DEGREE BENDS: PROVIDE RIGID STEEL ELBOWS, PVC-COATED WHERE DIRECT BURIED.  
c. USE MANUFACTURER'S RECOMMENDED METHOD FOR FORMING SMALLER BENDS.  
8. FLEXIBLE CONDUIT: DO NOT MAKE BENDS THAT EXCEED ALLOWABLE CONDUCTOR BENDING RADIUS OF CABLE TO BE INSTALLED OR THAT SIGNIFICANTLY RESTRICTS CONDUIT FLEXIBILITY.  
G. EXPANSION AND DEFLECTION FITTINGS: PROVIDE ON ALL RACEWAYS AT STRUCTURAL EXPANSION JOINTS AND IN LONG TANGENTIAL RUNS.  
H. PVC CONDUIT:  
1. SOLVENT WELDING:  
a. PROVIDE MANUFACTURER RECOMMENDED SOLVENT; APPLY TO ALL JOINTS.  
b. INSTALL SUCH THAT JOINT IS WATERTIGHT.  
2. ADAPTERS:  
a. PVC TO METALLIC FITTINGS: PVC TERMINAL TYPE.  
b. PVC TO RIGID METAL CONDUIT; PVC FEMALE ADAPTER.  
3. BELLED-END CONDUIT: BEVEL THE UNBELLED END OF THE JOINT PRIOR TO JOINING.  
I. PVC-COATED RIGID STEEL CONDUIT:  
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.  
2. ALL TOOLS AND EQUIPMENT USED IN THE CUTTING, BENDING, THREADING, AND INSTALLATION OF PVC-COATED RIGID STEEL CONDUIT SHALL BE DESIGNED TO LIMIT DAMAGE TO THE PVC COATING.  
3. PROVIDE PVC BOOT TO COVER ALL EXPOSED THREADING.  
J. TERMINATION AT ENCLOSURES:  
1. CAST METAL ENCLOSURE: PROVIDE MANUFACTURER'S PRE-MOLDED INSULATING SLEEVE INSIDE METALLIC CONDUIT TERMINATING IN THREADED HUBS.  
2. NONMETALLIC, CABINETS, AND ENCLOSURES: TERMINATE CONDUIT IN THREADED CONDUIT HUBS, MAINTAINING ENCLOSURE INTEGRITY.  
3. SHEET METAL BOXES, CABINETS, AND ENCLOSURES:  
a. RIGID GALVANIZED CONDUIT AND INTERMEDIATE METAL CONDUIT (WHERE APPLICABLE):  
1) PROVIDE ONE LOCK NUT EACH ON INSIDE AND OUTSIDE ENCLOSURE.  
2) INSTALL GROUNDING BUSHING.  
3) PROVIDE BONDING JUMPER FROM GROUNDING BUSHING TO EQUIPMENT GROUND BUS OR GROUND PAD; IF NEITHER GROUND BUS NOR PAD EXISTS, CONNECT JUMPER TO LAG BOLT ATTACHED TO METAL ENCLOSURE.  
4) INSTALL INSULATED BUSHING ON ENDS OF CONDUIT WHERE GROUNDING IS NOT REQUIRED.  
5) PROVIDE INSULATED THROAT WHEN CONDUIT TERMINATES IN SHEET METAL BOXES HAVING THREADED HUBS.

6) UTILIZE SEALING LOCKNUTS OR THREADED HUBS ON OUTSIDE OF NEMA 3R AND NEMA 12 ENCLOSURES.  
7) TERMINATE CONDUITS WITH THREADED CONDUIT HUBS AT NEMA 4 AND 4X BOXES AND ENCLOSURES.  
b. ELECTRIC METALLIC TUBING: PROVIDE GLAND COMPRESSION, INSULATED CONNECTORS.  
c. FLEXIBLE METAL CONDUIT: PROVIDE TWO-SCREW TYPE, INSULATED, MALLEABLE IRON CONNECTORS.  
d. PVC-COATED RIGID GALVANIZED STEEL CONDUIT: PROVIDE PVC-COATED, LIQUID-TIGHT, METALLIC CONNECTOR.  
e. PVC SCHEDULE 40 CONDUIT: PROVIDE PVC TERMINAL ADAPTER WITH LOCKNUT.  
4. FREE-STANDING ENCLOSURES:  
a. TERMINATE METAL CONDUIT ENTERING BOTTOM WITH GROUNDING BUSHING; PROVIDE A GROUNDING JUMPER EXTENDING TO EQUIPMENT GROUND BUS OR GROUNDING PAD.  
b. TERMINATE PVC CONDUIT ENTERING BOTTOM WITH BELL END FITTINGS.  
K. EMPTY RACEWAYS:  
1. PROVIDE PERMANENT, REMOVABLE CAP OVER EACH END.  
2. PROVIDE NYLON PULL CORD.  
3. IDENTIFY WITH WATERPROOF TAGS ATTACHED TO PULL CORD AT EACH END, AND AT INTERMEDIATE PULL POINT.  
L. UNDERGROUND RACEWAYS:  
1. GRADE: MAINTAIN MINIMUM GRADE OF 4 INCHES IN 100 FEET, EITHER FROM ONE MANHOLE, HANDHOLE, OR PULL BOX TO THE NEXT, OR FROM A HIGH POINT BETWEEN THEM, DEPENDING ON SURFACE CONTOUR.  
2. COVER: MAINTAIN MINIMUM 2-FOOT COVER ABOVE CONDUIT, UNLESS OTHERWISE SHOWN.  
3. MAKE ROUTING CHANGES AS NECESSARY TO AVOID OBSTRUCTIONS OR CONFLICTS.  
4. COUPLINGS: IN MULTIPLE CONDUIT RUNS, STAGGER SO COUPLINGS IN ADJACENT RUNS ARE NOT IN SAME TRANSVERSE LINE.  
5. UNION TYPE FITTINGS NOT PERMITTED.  
6. SPACERS:  
a. PROVIDE PREFORMED, NON-METALLIC SPACERS, DESIGNED FOR SUCH PURPOSE, TO SECURE AND SEPARATE PARALLEL CONDUIT RUNS IN A TRENCH.  
b. INSTALL AT INTERVALS NOT GREATER THAN THAT SPECIFIED IN NFPA 70 FOR SUPPORT OF THE TYPE OF CONDUIT USED, BUT IN NO CASE GREATER THAN 10 FEET.  
7. SUPPORT CONDUIT SO AS TO PREVENT BENDING OR DISPLACEMENT DURING BACKFILLING.  
8. INSTALLATION WITH OTHER PIPING SYSTEMS.  
a. CROSSINGS: MAINTAIN MINIMUM 12-INCH VERTICAL SEPARATION.  
b. PARALLEL RUNS: MAINTAIN MINIMUM 12-INCH SEPARATION.  
c. INSTALLATION OVER VALVES OR COUPLINGS NOT PERMITTED.  
9. METALLIC RACEWAY COATING: ALONG ENTIRE LENGTH, COAT WITH RACEWAY COATING.  
10. PROVIDE EXPANSION FITTINGS THAT ALLOW MINIMUM OF 4 INCHES OR MOVEMENT IN VERTICAL CONDUIT RUNS FROM UNDERGROUND WHERE EXPOSED CONDUIT WILL BE FASTENED TO OR WILL ENTER BUILDING OR STRUCTURE.  
11. PROVIDE DEFLECTIONAL/EXPANSION FITTINGS IN CONDUIT RUNS THAT EXIT BUILDING OR STRUCTURE BELOW GRADE. CONDUIT FROM BUILDING WALL TO FITTING SHALL BE PVC-COATED RIGID STEEL.  
12. TRANSITION FROM UNDERGROUND TO EXPOSED; PVC-COATED RIGID STEEL CONDUIT.  
13. BACKFILL:  
a. AS SPECIFIED IN ISWPC SPECIFICATIONS.  
b. DO NOT BACKFILL UNTIL INSPECTED BY ENGINEER.  
3.09 CONDUCTORS AND CABLES  
A. CONDUCTOR STORAGE, HANDLING, AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.  
B. DO NOT EXCEED MANUFACTURER'S RECOMMENDATIONS FOR MAXIMUM PULLING TENSIONS AND MINIMUM BENDING RADIUS.  
C. CONDUIT SYSTEM SHALL BE COMPLETE PRIOR TO DRAWING CONDUCTORS. LUBRICATE PRIOR TO PULLING INTO CONDUIT. LUBRICATION TYPE SHALL BE AS APPROVED BY CONDUCTOR MANUFACTURER.  
D. TERMINATE ALL CONDUCTORS AND CABLES, UNLESS OTHERWISE SHOWN.  
E. DO NOT SPLICE CONDUCTORS, UNLESS SPECIFICALLY INDICATED OR APPROVED BY ENGINEER.  
F. BUNDLING: WHERE SINGLE CONDUCTORS AND CABLES IN MANHOLES, HANDHOLES, VAULTS, CABLE TRAYS, AND OTHER INDICATED LOCATIONS ARE NOT WRAPPED TOGETHER BY SOME OTHER MEANS, BUNDLE CONDUCTORS FROM EACH CONDUIT THROUGHOUT THEIR EXPOSED LENGTH WITH CABLE TIES PLACED AT INTERVALS NOT EXCEEDING 12 INCHES.  
G. WIRING WITHIN EQUIPMENT AND LOCAL CONTROL PANELS: REMOVE SURPLUS WIRE, DRESS BUNDLE, AND SECURE.  
H. POWER CONDUCTOR COLOR CODING:  
1. NO. 6 AWG AND LARGER: APPLY GENERAL PURPOSE, FLAME RETARDANT TAPE AT EACH END, AND AT

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| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-003 |

 **PUBLIC WORKS DEPARTMENT**  
150 N. CAPITOL BLVD.  
BOISE, IDAHO 83702  
(208) 384-3900

**CITY OF BOISE**  
ODOR CONTROL

**ELECTRICAL SPECIFICATIONS**

SHEET: **E-003**  
PROJECT NUMBER:



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Plot Date: 10/17/2025 10:10 AM Plotted By: Calvin Burton  
 Base Created: 10/19/2025 Location: \\DCS\PROJECTS\2025\25JUB01 - E-004.rvt  
 User: JEROME PARK\_CDRP - CONTRA\_LOAD\25JUB01 - E-004.rvt

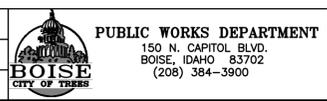
- ACCESSIBLE LOCATIONS WRAPPED AT LEAST SIX FULL OVERLAPPING TURNS, COVERING AN AREA 1.5 TO 2 INCHES WIDE.
- 2. NO. 8 AWG AND SMALLER: PROVIDE COLORED CONDUCTORS.
- 3. COLORS:
  - a. NEUTRAL WIRE: WHITE.
  - b. LIVE WIRES, 120/240-VOLT, SINGLE-PHASE SYSTEM: BLACK, RED.
  - c. LIVE WIRES, 120/208-VOLT, THREE-PHASE SYSTEM: BLACK, RED, OR BLUE.
  - d. LIVE WIRES, 277/480-VOLT, THREE-PHASE SYSTEM: BROWN, ORANGE OR YELLOW.
  - e. GROUND WIRE: GREEN.
- I. CIRCUIT IDENTIFICATION:
  - 1. ASSIGN CIRCUIT NAME BASED ON DEVICE OR EQUIPMENT AT EACH END OF CIRCUIT. THIS INCLUDES BUT IS NOT LIMITED TO NEUTRAL WIRES IN LOW VOLTAGE PANEL, ALL POWER MONITORING WIRING, ETHERNET CABLES, ANALOG WIRES, ETC. WHERE THIS WOULD RESULT IN SAME NAME BEING ASSIGNED TO MORE THAN ONE CIRCUIT, ADD NUMBER OR LETTER TO EACH OTHERWISE IDENTICAL CIRCUIT NAME TO MAKE IT UNIQUE.
  - 2. METHOD: IDENTIFY WITH SLEEVES, TAPED-ON MARKERS OR TAGS RELYING ON ADHESIVES NOT PERMITTED.
- J. CONNECTIONS AND TERMINATIONS:
  - 1. INSTALL NYLON SELF-INSULATED CRIMP CONNECTORS AND TERMINATORS FOR INSTRUMENTATION CONTROL CIRCUIT CONDUCTORS.
  - 2. TAPE INSULATE ALL UNINSULATED CONNECTIONS.
  - 3. INSTALL CRIMP CONNECTORS AND COMPRESSION LUGS WITH TOOLS APPROVED BY CONNECTOR MANUFACTURER.
- 3.10 GROUNDING
  - A. GROUNDING SHALL BE IN COMPLIANCE WITH NFPA 70 AND AS SHOWN.
  - B. GROUND ELECTRICAL SERVICE NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO SUPPLEMENTARY GROUNDING ELECTRODES.
  - C. GROUND EACH SEPARATELY DERIVED SYSTEM NEUTRAL TO NEAREST EFFECTIVELY GROUNDED BUILDING STRUCTURAL STEEL MEMBER OR SEPARATE GROUNDING ELECTRODE.
  - D. BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NONCURRENT-CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAYS, GROUND CONDUCTOR IN RACEWAYS AND CABLES, RECEPTACLE GROUND CONNECTIONS, AND METAL PIPING SYSTEMS.
  - E. VARIABLE FREQUENCY DRIVE POWER CABLES:
    - 1. COMPLY WITH VFD MANUFACTURER GROUNDING REQUIREMENTS.
    - 2. PROVIDE SHIELD TERMINATION AND GROUNDING.
    - 3. GROUND SHIELD AT VFD GROUND BUS AND AT MOTOR.
  - F. SHIELDED INSTRUMENTATION CABLES:
    - 1. GROUND SHIELD TO GROUND BUS AT POWER SUPPLY FOR ANALOG SIGNAL.
    - 2. EXPOSE SHIELD MINIMUM 1 INCH AT TERMINATION TO FIELD INSTRUMENT AND APPLY HEAT SHRINK TUBE.
    - 3. DO NOT GROUND INSTRUMENTATION CABLE SHIELD AT MORE THAN ONE POINT.
  - G. EQUIPMENT GROUNDING CONDUCTORS: PROVIDE IN ALL CONDUITS CONTAINING POWER CONDUCTORS AND CONTROL CIRCUITS ABOVE 50 VOLTS.
  - H. GROUND RODS: INSTALL FULL LENGTH WITH CONDUCTOR CONNECTION AT UPPER END.
- 3.11 LIGHTING AND POWER DISTRIBUTION PANELBOARDS
  - A. INSTALL SECURELY, PLUMB, IN-LINE AND SQUARE WITH WALLS.
  - B. INSTALL TOP OF CABINET 78" ABOVE FLOOR, UNLESS OTHERWISE SHOWN.
  - C. PROVIDE TYPEWRITTEN CIRCUIT DIRECTORY FOR EACH PANELBOARD.
- 3.12 DRY-TYPE TRANSFORMER (0 TO 600 VOLTS PRIMARY)
  - A. LOAD EXTERNAL VIBRATION ISOLATOR SUCH THAT NO DIRECT TRANSFORMER UNIT METAL IS IN DIRECT CONTACT WITH THE MOUNTING SURFACE.
  - B. PROVIDE MOISTURE-PROOF FLEXIBLE CONDUIT FOR ELECTRICAL CONNECTIONS.
  - C. CONNECT VOLTAGE TAPS TO ACHIEVE (APPROXIMATELY) RATED OUTPUT VOLTAGE UNDER NORMAL LOAD CONDITIONS.
  - D. PROVIDE WALL BRACKETS WHERE REQUIRED.
- 3.13 FIELD QUALITY CONTROL
  - A. GENERAL:
    - 1. TEST EQUIPMENT SHALL HAVE AN OPERATING ACCURACY EQUAL TO, OR GREATER THAN, REQUIREMENTS ESTABLISHED BY NETA ATS.
    - 2. TEST INSTRUMENT CALIBRATION SHALL BE IN ACCORDANCE WITH NETA ATS.
    - 3. PERFORM INSPECTION AND ELECTRICAL TESTS AFTER EQUIPMENT HAS BEEN INSTALLED.
    - 4. PERFORM TESTS WITH APPARATUS DE-ENERGIZED WHENEVER FEASIBLE.
    - 5. INSPECTION AND ELECTRICAL TESTS ON ENERGIZED EQUIPMENT ARE TO BE:
      - a. SCHEDULED WITH ENGINEER PRIOR TO DE-ENERGIZATION.
      - b. MINIMIZED TO AVOID EXTENDED PERIOD OF INTERRUPTION TO THE OPERATING PLANT EQUIPMENT.
  - B. TESTS AND INSPECTION SHALL ESTABLISH THAT:
    - 1. ELECTRICAL EQUIPMENT IS OPERATIONAL WITHIN INDUSTRY AND MANUFACTURER'S TOLERANCES.
    - 2. INSTALLATION OPERATES PROPERLY.
    - 3. EQUIPMENT IS SUITABLE FOR ENERGIZATION.
    - 4. INSTALLATION CONFORMS TO REQUIREMENTS OF CONTRACT DOCUMENTS AND NFPA 70.
  - C. PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH NETA ATS, INDUSTRY STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS.
  - D. ADJUST MECHANISMS AND MOVING PARTS FOR FREE MECHANICAL MOVEMENT.
  - E. ADJUST ADJUSTABLE RELAYS AND SENSORS TO CORRESPOND TO OPERATING CONDITIONS, OR AS RECOMMENDED BY MANUFACTURER.
  - F. VERIFY NAMEPLATE DATA FOR CONFORMANCE TO CONTRACT DOCUMENTS.
  - G. REALIGN EQUIPMENT NOT PROPERLY ALIGNED AND CORRECT UNLEVELNESS.
  - H. PROPERLY ANCHOR ELECTRICAL EQUIPMENT FOUND TO BE INADEQUATELY ANCHORED.
  - I. TIGHTEN ACCESSIBLE BOLTED CONNECTIONS, INCLUDING WIRING CONNECTIONS, WITH CALIBRATED TORQUE WRENCH TO MANUFACTURER'S RECOMMENDATIONS, OR AS OTHERWISE SPECIFIED.
  - J. CLEAN CONTAMINATED SURFACES WITH CLEANING SOLVENTS AS RECOMMENDED BY MANUFACTURER.
  - K. PROVIDE PROPER LUBRICATION OF APPLICABLE MOVING PARTS.
  - L. INVESTIGATE AND REPAIR OR REPLACE:
    - 1. ELECTRICAL ITEMS THAT FAIL TESTS.
    - 2. ACTIVE COMPONENTS NOT OPERATING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
    - 3. DAMAGED ELECTRICAL EQUIPMENT.
  - M. ELECTRICAL ENCLOSURES:
    - 1. REMOVE FOREIGN MATERIAL AND MOISTURE FROM ENCLOSURE INTERIOR.
    - 2. VACUUM AND WIPE CLEAN ENCLOSURE INTERIOR.
    - 3. REMOVE CORROSION FOUND ON METAL SURFACES.
    - 4. REPAIR OR REPLACE, AS DETERMINED BY ENGINEER, DOOR AND PANEL SECTIONS HAVING DAMAGED SURFACES.
    - 5. REPLACE MISSING OR DAMAGED HARDWARE.
  - N. PROVIDE CERTIFIED TEST REPORT(S) DOCUMENTING THE SUCCESSFUL COMPLETION OF SPECIFIED TESTING. INCLUDE FIELD TEST MEASUREMENT DATA.
  - O. TEST THE FOLLOWING EQUIPMENT AND MATERIALS:
    - 1. CONDUCTORS: INSULATION RESISTANCE, NO. 4 AND LARGER ONLY.
    - 2. PANELBOARDS, SWITCHES, AND CIRCUIT BREAKERS.
    - 3. MOTOR CONTROLS.
    - 4. GROUNDING ELECTRODES.
  - P. CONTROLS:
    - 1. TEST CONTROL AND SIGNAL WIRING FOR PROPER TERMINATION AND FUNCTION.
    - 2. TEST LOCAL CONTROL PANELS AND OTHER CONTROL DEVICES FOR PROPER TERMINATIONS, CONFIGURATION AND SETTINGS, AND FUNCTIONS.
    - 3. DEMONSTRATE CONTROL, MONITORING, AND INDICATION FUNCTIONS IN PRESENCE OF OWNER AND ENGINEER.
  - Q. BALANCE ELECTRICAL LOAD BETWEEN PHASES ON PANELBOARDS AFTER INSTALLATION.
  - R. VOLTAGE TESTING:
    - 1. WHEN INSTALLATION IS COMPLETE AND FACILITY IS IN OPERATION, CHECK VOLTAGE TO PROJECT.
    - 2. CHECK VOLTAGE AMPLITUDE AND BALANCE BETWEEN PHASES FOR LOADED AND UNLOADED CONDITIONS.
  - S. EQUIPMENT LINE CURRENT:
    - 1. CHECK LINE CURRENT IN EACH PHASE FOR EACH PIECE OF EQUIPMENT.

END OF SECTION



| DATE | NO. | REVISION | DATE | NO. | REVISION |
|------|-----|----------|------|-----|----------|
|      |     |          |      |     |          |

|              |                        |
|--------------|------------------------|
| DESIGNED: CB | DATE: 2025             |
| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-004 |



CITY OF BOISE  
ODOR CONTROL

ELECTRICAL  
SPECIFICATIONS

SHEET: E-004  
PROJECT NUMBER:

**COMcheck Software Version COMcheckWeb**  
**Interior Lighting Compliance Certificate**

**Project Information**

Energy Code: 2018 IECC  
 Project Title: Heron Park  
 Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

**Additional Efficiency Package(s)**

Credits: 1.0 Required 0.0 Proposed

**Allowed Interior Lighting Power**

| A<br>Area Category   | B<br>Floor Area (ft <sup>2</sup> ) | C<br>Allowed Watts / ft <sup>2</sup> | D<br>Allowed Watts |
|--|------------------------------------|--------------------------------------|--------------------|
| 1-Blower Building (Common Space Types:Electrical/Mechanical) | 276                                | 0.43                                 | 119                |
| Total Allowed Watts =  |                                    |                                      | 119                |

**Proposed Interior Lighting Power**

| A<br>Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast                                | B<br>Lamps/ Fixture | C<br># of Fixture Watt. | D<br>E<br>(C X D) |
|--|---------------------|-------------------------|-------------------|
| 1-Blower Building (Common Space Types:Electrical/Mechanical)<br>LED; LBL; LED Wraparound; Other: | 1                   | 3                       | 32 98             |
| Total Proposed Watts =   |                     |                         | 98                |

Interior Lighting PASSES: Design 18% better than code

**Interior Lighting Compliance Statement**

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Calvin Burton Calvin Burton Digitally signed by Calvin Burton 10/10/2025  
 Name - Title Signature Date

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 1 of 6

| Section # & Req.ID | Rough-In Electrical Inspection  | Complies?  | Comments/Assumptions |
|--------------------|---|--|----------------------|
| C405.2.2 (EL22)1   | Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.1 (EL18)1   | Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sq ft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.1 (EL19)1   | Occupancy sensors control function in warehouses; in warehouses, the lighting in aislesways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.1 (EL20)1   | Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected. | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.2 (EL21)2   | Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 4 of 6

**COMcheck Software Version COMcheckWeb**  
**Exterior Lighting Compliance Certificate**

**Project Information**

Energy Code: 2018 IECC  
 Project Title: Heron Park  
 Project Type: New Construction  
 Exterior Lighting Zone: 2 (Residential mixed use area (LZZ))

Construction Site: Owner/Agent: Designer/Contractor:

**Allowed Exterior Lighting Power**

| A<br>Area/Surface Category  | B<br>Quantity       | C<br>Allowed Watts / | D<br>Tradable Wattage | E<br>Allowed Watts (B X C) |
|---|---------------------|----------------------|-----------------------|----------------------------|
| Front and Rear Walls (Illuminated area of facade wall or surface) | 415 ft <sup>2</sup> | 0.07                 | No                    | 31                         |
| Total Tradable Watts (a) =  |                     |                      |                       | 0                          |
| Total Allowed Watts =   |                     |                      |                       | 31                         |
| Total Allowed Supplemental Watts (b) =                            |                     |                      |                       | 400                        |

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
 (b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Proposed Exterior Lighting Power**

| A<br>Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast  | B<br>Lamps/ Fixture | C<br># of Fixture Watt. | D<br>E<br>(C X D) |
|--|---------------------|-------------------------|-------------------|
| Front and Rear Walls (Illuminated area of facade wall or surface. 415 ft <sup>2</sup> ): Non-tradable Wattage<br>LED; WP; Wallpack; Other: | 1                   | 2                       | 7 14              |
| Total Tradable Proposed Watts =  |                     |                         | 0                 |

Exterior Lighting PASSES: Design 0.0% better than code

**Exterior Lighting Compliance Statement**

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Calvin Burton Calvin Burton Digitally signed by Calvin Burton 10/10/2025  
 Name - Title Signature Date

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 2 of 6

| Section # & Req.ID | Rough-In Electrical Inspection   | Complies?  | Comments/Assumptions |
|--------------------|--|--|----------------------|
| C405.2.3 (EL23)2   | Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.                          | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.4 (EL26)1   | Separate lighting control devices for specific uses installed per approved lighting plans.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.4 (EL27)1   | Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.5 (EL28)1   | Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.2.6 (EL30)1   | Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.3 (EL6)1      | Exit signs do not exceed 5 watts per face.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.6 (EL26)1     | Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.7 (EL27)1     | Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist). | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.8.2 (EL28)1   | Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C405.9 (EL29)1     | Total voltage drop across the combination of feeders and branch circuits <= 5%.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 5 of 6

**COMcheck Software Version COMcheckWeb**  
**Inspection Checklist**

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COMcheck software  
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review   | Complies?  | Comments/Assumptions |
|--------------------|---|--|----------------------|
| C103.2 (PR4)1      | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C103.2 (PR8)1      | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |
| C406 (PR9)1        | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |                      |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 3 of 6

| Section # & Req.ID       | Final Inspection  | Complies?  | Comments/Assumptions                                   |
|--------------------------|---|--|--|
| C303.3, C408.2.5 (F117)2 | Furnished O&M instructions for systems and equipment to the building owner or designated representative.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |  |
| C405.4.1 (F118)1         | Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable | See the Interior Lighting fixture schedule for values. |
| C405.5.1 (F119)1         | Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.  | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable | See the Exterior Lighting fixture schedule for values. |
| C408.1.1 (F17)1          | Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated. | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |  |
| C408.2.5.1 (F116)1       | Furnished as-built drawings for electric power systems within 90 days of system acceptance.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |  |
| C408.3 (F133)1           | Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.   | <input type="checkbox"/> Complies<br><input type="checkbox"/> Does Not<br><input type="checkbox"/> Not Observable<br><input type="checkbox"/> Not Applicable |  |

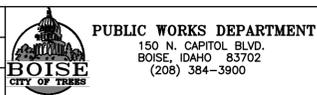
**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Heron Park Report date: 10/10/25  
 Data filename: Page 6 of 6

Plot Date: 10/17/2025 10:10 AM Plotted By: Calvin Burton  
 Base Creation: 10/9/2025 Location: \\DCS\PROJECTS\2025\25JUB01 - Heron Park\_ODP - COMMS\COMMS\25JUB01-E-005.rvt

DESIGNED: CB  
 DRAWN: CB  
 CHECKED: NF  
 DATE: 2025  
 SECTION: 11, T3N, R2E  
 FILE NO: 25JUB01-E-005



CITY OF BOISE  
 ODOR CONTROL

ENERGY  
 COMPLIANCE FORMS



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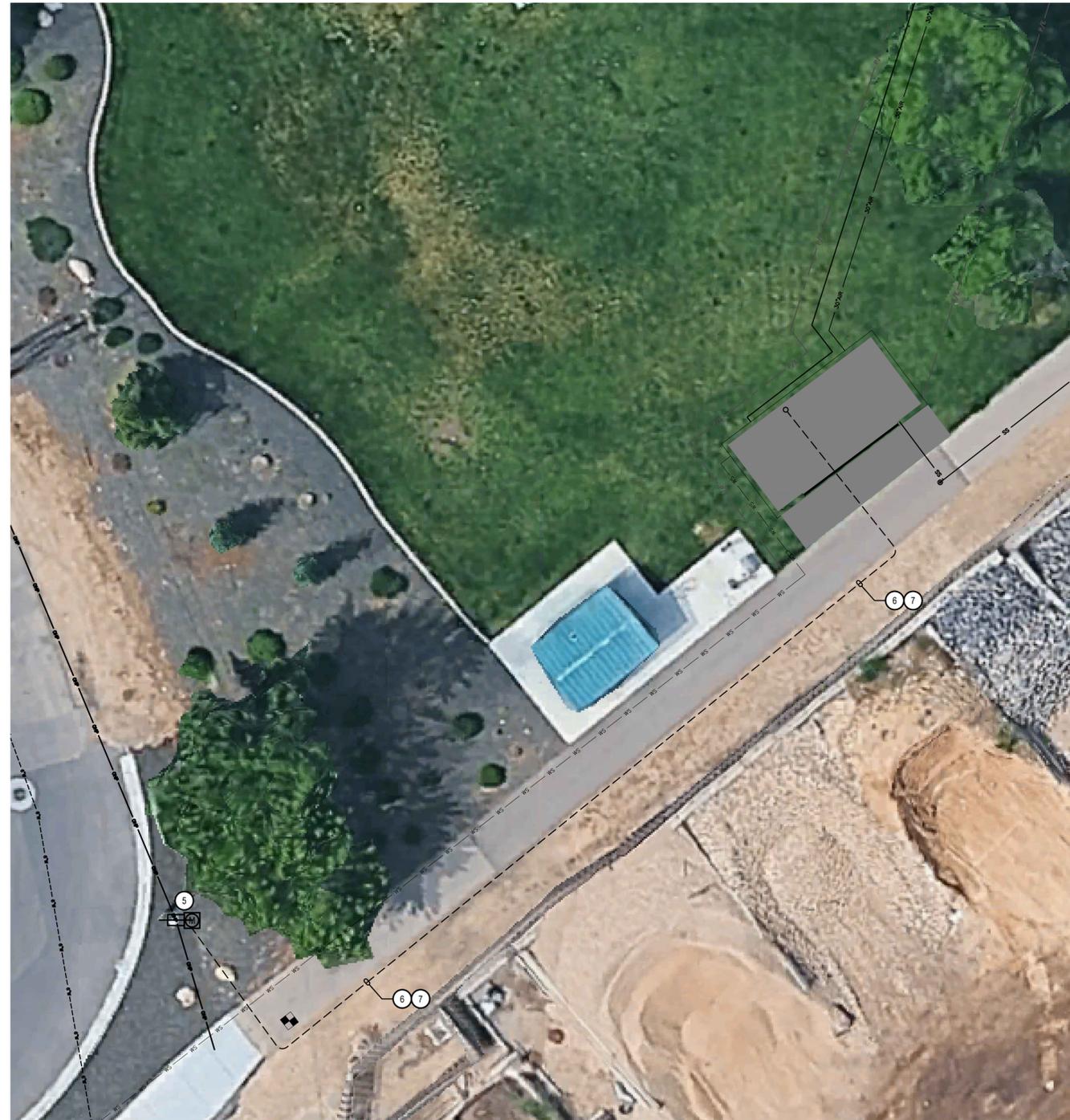
SHEET: E-005  
 PROJECT NUMBER:

**GENERAL NOTES:**

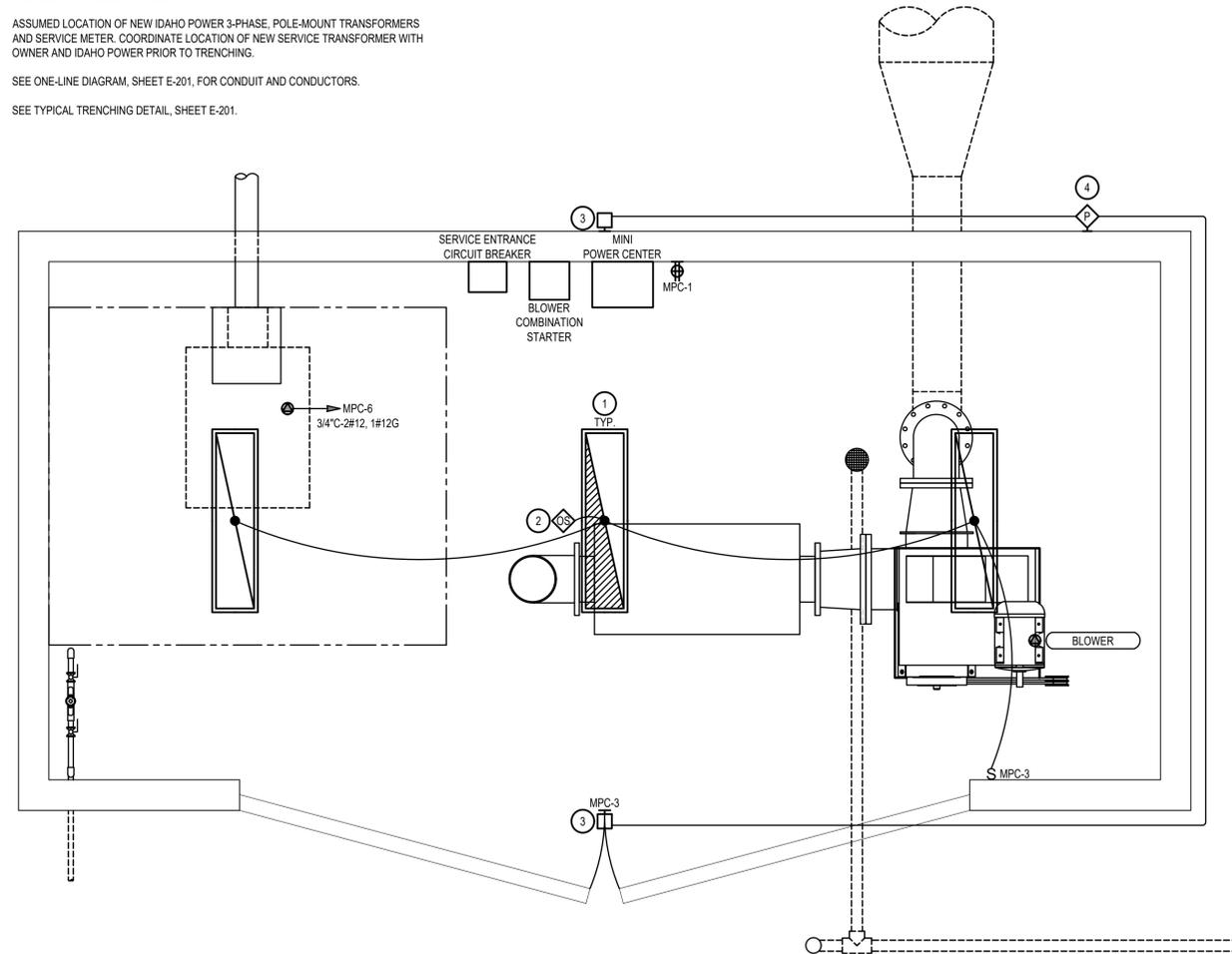
- NUMBER ADJACENT TO DEVICE OR HOME RUN INDICATES POLE POSITION WITHIN PANEL TO WHICH DEVICES SHALL BE CIRCUITED.
- REFER TO SHEET E-201 FOR PANEL SCHEDULES.

**KEY NOTES:**

- LITHONIA LBL4 4000LM 80CRI 30K NODIM MVOLT OR APPROVED EQUIVALENT. PROVIDE WITH E10W EMERGENCY BATTERY PACK WHERE SHOWN.
- CMR 9 OCCUPANCY SENSOR OR APPROVED EQUIVALENT.
- LITHONIA WIDGE1 LED P3 30K 80CRI VW MVOLT SRM E4WH DBLXD OR APPROVED EQUIVALENT. ROUTE ALL WALLPACKS THROUGH PHOTOCELL FOR CONTROL.
- PROVIDE PHOTOCELL MOUNTED 7.5' A.F.G.
- ASSUMED LOCATION OF NEW IDAHO POWER 3-PHASE, POLE-MOUNT TRANSFORMERS AND SERVICE METER. COORDINATE LOCATION OF NEW SERVICE TRANSFORMER WITH OWNER AND IDAHO POWER PRIOR TO TRENCHING.
- SEE ONE-LINE DIAGRAM, SHEET E-201, FOR CONDUIT AND CONDUCTORS.
- SEE TYPICAL TRENCHING DETAIL, SHEET E-201.



**SITE PLAN**  
SCALE: 1" = 10'  
NORTH



**BLOWER ROOM PLAN**  
SCALE: 1/2" = 1'-0"  
NORTH

PROFESSIONAL ENGINEER  
**PRELIMINARY**  
NOT FOR CONSTRUCTION  
NICHOLAS W. FLYNN

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Plot Date: 10/17/2025 10:10 AM Plotted By: Calvin Burton  
Base Created: 09/16/2025 Location: \\SCTE\PROJECTS\2025\25JUB01 - IPEOD PARK ODOR CONTROL\CAD\25JUB01-E-101.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
|------|-----|----------|------|-----|----------|
|      |     |          |      |     |          |

|              |                        |
|--------------|------------------------|
| DESIGNED: CB | DATE: 2025             |
| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-101 |

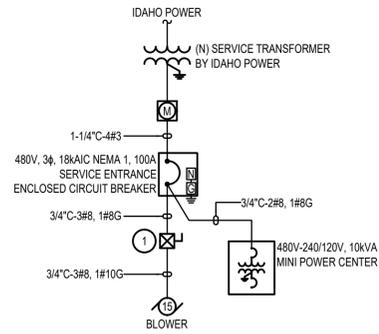
**PUBLIC WORKS DEPARTMENT**  
150 N. CAPITOL BLVD.  
BOISE, IDAHO 83702  
(208) 384-3900



CITY OF BOISE  
ODOR CONTROL

**ELECTRICAL PLANS**

SHEET: **E-101**  
PROJECT NUMBER:



**ONE-LINE DIAGRAM**  
SCALE: N.T.S.

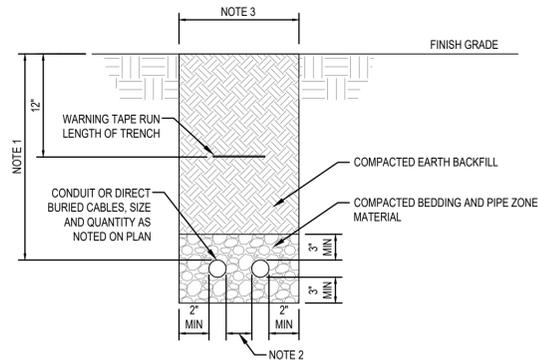
**KEY NOTES:**

- COMBINATION MOTOR STARTER.

| PANELBOARD SCHEDULE |                            |      |                   |       |       |             |       |      |                   |      |                                 |                 |  |  |
|---------------------|----------------------------|------|-------------------|-------|-------|-------------|-------|------|-------------------|------|---------------------------------|-----------------|--|--|
| PANEL: MPC          |                            |      | PHASE 1           |       |       | WIPE 3      |       |      | KVA RATING: 10KVA |      |                                 | SC RATING: 18kA |  |  |
| VOLTAGE: 240/120V   |                            |      | MOUNTING: SURFACE |       |       | MAIN: 40A   |       |      |                   |      |                                 |                 |  |  |
| LOADS:              |                            |      | Amps VA           |       |       | LOAD TYPES: |       |      | REMARKS:          |      |                                 |                 |  |  |
| PHASE A: 14 1620    |                            |      | 1 = LIGHTING      |       |       |             |       |      |                   |      |                                 |                 |  |  |
| PHASE B: 5 615      |                            |      | 2 = RECEPTACLES   |       |       |             |       |      |                   |      |                                 |                 |  |  |
| TOTAL: 2235         |                            |      | 3 = MISC          |       |       |             |       |      |                   |      |                                 |                 |  |  |
|                     |                            |      | 4 = MOTOR         |       |       |             |       |      |                   |      |                                 |                 |  |  |
|                     |                            |      | 5 = KITCHEN       |       |       |             |       |      |                   |      |                                 |                 |  |  |
| LOAD (VA)           | LOAD SERVED                | NOTE | LOAD TYPE         | POLES | CT NO | PHASE       | CT NO | AMPS | LOAD TYPE         | NOTE | LOAD SERVED                     | LOAD (VA)       |  |  |
| 180                 | INTERIOR REC.              |      | 2                 | 20 1  | 1     | A           | 2     | 30   | 2                 |      | SPARE FOR (F) UPSIZED ODOR UNIT |                 |  |  |
| 115                 | LIGHTING                   |      | 1                 | 20 1  | 3     | B           | 4     | -    | -                 |      | ---                             |                 |  |  |
|                     | SPARE FOR (F) OZONE SENSOR |      |                   | 20 1  | 5     | A           | 6     | 20   | 1                 | 4    | ODOR UNIT                       | 1440            |  |  |
|                     | SPARE                      |      |                   | 20 1  | 7     | B           | 8     | 20   | 1                 | 3    | BACKFLOW PREV. HEATER           | 500             |  |  |
|                     | SPARE                      |      |                   | 20 1  | 9     | A           | 10    | 20   | 1                 |      | SPARE                           |                 |  |  |
|                     | SPACE                      |      |                   |       | 11    | B           | 12    |      |                   |      | SPACE                           |                 |  |  |
|                     | SPACE                      |      |                   |       | 13    | A           | 14    |      |                   |      | SPACE                           |                 |  |  |
|                     | SPACE                      |      |                   |       | 15    | B           | 16    |      |                   |      | SPACE                           |                 |  |  |

| LOADING BY TYPE | CONNECTED          | NEC CODE | DEMAND FACTOR            | DEMAND  | NOTES: |
|-----------------|--------------------|----------|--------------------------|---------|--------|
| LIGHTING        | 115 VA             | 210-19   | 125%                     | 144 VA  |        |
| RECEPTACLES     | 180 VA             | 220-44   | 10kVA @ 100%, ELSE @ 50% | 180 VA  |        |
| MISC.           | 500 VA             | 220-60   | 100%                     | 500 VA  |        |
| MOTOR           | LARGEST MOT.: 1440 | 1440 VA  | 100% + LARGEST x 25%     | 1800 VA |        |
| KITCHEN         | # OF KIT. UNITS: 0 | 0 VA     |                          | 0 VA    |        |
| <b>TOTAL</b>    |                    | 9A       |                          | 11A     |        |



**NOTES:**

- 24" MINIMUM DEPTH FOR 600 VOLTS OR LESS. 36" MINIMUM DEPTH OF MORE THAN 600V.
- FOR CONDUITS 2" AND LARGER, PROVIDE 3" MINIMUM SEPARATION. FOR CONDUITS 1-1/2" AND SMALLER, PROVIDE 2" MINIMUM SEPARATION.
- 8" MINIMUM FOR 1 DUCT. 1'-2" MINIMUM FOR 2 DUCTS.

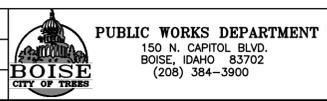
**TYPICAL TRENCHING DETAIL**  
SCALE: N.T.S.



Plot Date: 10/17/2025 10:10 AM. Printed By: Calvin Burton. Base Content: 10/16/2025 section: \PROJECTS\2025\25JUB01 - JERON PARK ODOR CONTROL\25JUB01-E-201.DWG

| DATE | NO. | REVISION | DATE | NO. | REVISION |
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| DESIGNED: CB | DATE: 2025             |
| DRAWN: CB    | SECTION: 11, T3N, R2E  |
| CHECKED: NF  | FILE NO: 25JUB01-E-201 |



CITY OF BOISE  
ODOR CONTROL

**ONE-LINE DIAGRAM, SCHEDULES, & DETAILS**

SHEET: E-201  
PROJECT NUMBER: