STAFF REPORT FOR PLANNING COMMISSION MEETING OF SEPTEMBER 30, 2020

FILE NO: LU-2020-0023 & VAR-2020-0003 **AGENDA ITEM: E.3 & E.4**

STAFF AUTHOR: Hope Sullivan, Planning Manager

AGENDA TITLE: For Possible Action: Discussion and possible action regarding a request for a Special Use Permit to modify a municipal well site by adding an emergency backup generator on property zoned Single Family 21,000 Planned Unit Development (SF21-P), located at 4669 East 5th Street, APN 010-384-08.

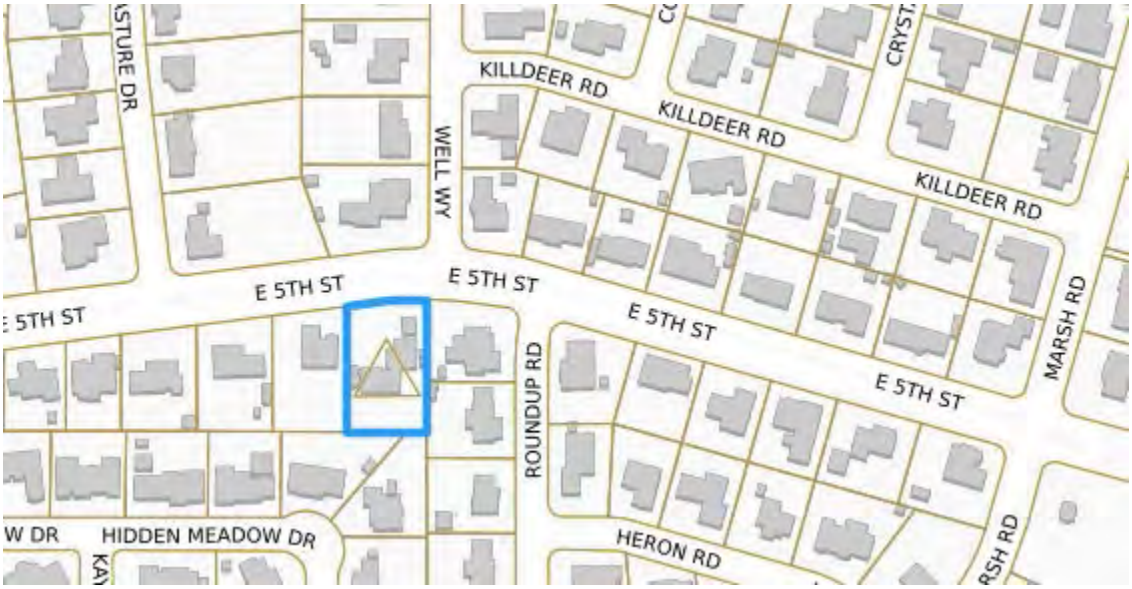
For Possible Action: Discussion and possible action regarding a request for a Major Variance for a front setback of 5 feet where a 20 foot front setback is required so as to accommodate an emergency backup generator on property zoned Single Family 21,000 Planned Unit Development (SF21-P), located at 4669 East 5th Street, APN 010-384-08.

STAFF SUMMARY: Carson City Public Works is proposing to install an emergency backup generator at the City's 3600 square feet, 60-foot-deep well site. An existing masonry building on site currently houses the well equipment. The proposed improvements include installing a new generator and fuel tank on a concrete pad. The generator would be approximately 8-feet, 10-inches tall by 6-feet, 8-inches wide by 18-feet, 7-inches long. The generator will be housed inside a white, sound attenuating enclosure. The proposed generator will provide emergency backup power to the well as well as the Riverview Sewer Lift Station. The Planning Commission is authorized to approve a Special Use Permit.

RECOMMENDED MOTIONS:
I move to approve LU-2020-0023, based on the ability to make the required findings and subject to the conditions of approval contained in the staff report.

I move to approve VAR-2020-0003 based on the ability to make the required findings and subject to the conditions of approval contained in the staff report.

VICINITY MAP:



RECOMMENDED SPECIAL USE PERMIT CONDITIONS OF APPROVAL:

1. All development shall be substantially in accordance with the approved site plan.

2. All on and off-site improvements shall conform to City standards and requirements.

3. The use for which this permit is approved shall commence within twelve (12) months of the date of final approval. A single, one (1) year extension of time must be requested in writing to the Planning and Community Development Department thirty (30) days prior to the one (1) year expiration date. Should this permit not be initiated within one (1) year and no extension granted, the permit shall become null and void.

4. The applicant must sign and return the Notice of Decision for conditions of approval within ten (10) days of receipt of notification. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.

5. The applicant shall submit exterior light fixture details for any proposed fixtures with the building permit application. Lights must be shielded with a 90-degree full cutoff so that light is projected downward and not horizontally or upward. Light sources or refractors shall not extend below the bottom of the shield.

6. Scheduled testing of the generator shall be scheduled for mid-afternoon on a weekday so as to blend with ambient noise.

RECOMMENDED VARIANCE CONDITIONS OF APPROVAL:

1. All development shall be substantially in accordance with the approved site plan.

2. All on and off-site improvements shall conform to City standards and requirements.

3. The use for which this permit is approved shall commence within twelve (12) months of the date of final approval. A single, one (1) year extension of time must be requested in writing to the Planning and Community Development Department thirty (30) days prior to the one (1) year expiration date. Should this permit not be initiated within one (1) year and no extension granted, the permit shall become null and void.

4. The applicant must sign and return the Notice of Decision for conditions of approval within ten (10) days of receipt of notification. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.

5. Scheduled testing of the generator shall be scheduled for mid-afternoon on a weekday so as to blend with ambient noise.

LEGAL REQUIREMENTS: Carson City Municipal Code 18.04.060 Single Family 21,000 (SF21) Conditional Uses

MASTER PLAN DESIGNATION: Low Density Residential

PRESENT ZONING: Single Family 21,000 Planned Unit Development (SF21-P)

KEY ISSUES: Will the use be compatible with the surrounding neighborhood and be in keeping with the standards of the Carson City Municipal Code?

SURROUNDING ZONING AND LAND USE INFORMATION:
NORTH: Single Family 21,000 Planned Unit Development / Single Family Residential
SOUTH: Single Family 21,000 Planned Unit Development / Single Family Residential
EAST: Single Family 21,000 Planned Unit Development / Single Family Residential
WEST: Single Family 21,000 Planned Unit Development / Single Family Residential

ENVIRONMENTAL INFORMATION:
FLOOD ZONE: Zone X Shaded
EARTHQUAKE FAULT: Within 200 feet
EARTHQUAKE POTENTIAL: Greatest Severity
SLOPE/DRAINAGE: Flat

SITE DEVELOPMENT INFORMATION:
LOT SIZE: .54 acres
LEASE AREA: 3600 square feet
EXISTING LAND USE: Single Family Home with a municipal well

PREVIOUS REVIEWS:
None

DISCUSSION:
Per CCMC 18.04.060, a municipal well facility is a conditional use in the SF21-P zoning district and may only be established with a Special Use Permit. The municipal well use is established. The applicant is now seeking to add an emergency generator to the site. The generator will be 18 feet, 7-inches long by 6-feet, 8-inches wide by 8-feet, 10-inches tall. The addition of the generator requires a modification to the special use permit. The Planning Commission is authorized to approve a modification to a special use permit.

The SF21-P zoning district requires a 20-foot front setback. The applicant is proposing a 5-foot front setback. Due to access, the generator must be oriented as proposed.

Of note, on August 17, 2017, the Board of Supervisors voted 5 – 0 to submit a grant application to the Nevada Division of Emergency Management for emergency generators and booster pumps as part of the hazard mitigation grant program. The scope of the grant application, as approved by the Board Supervisors, was for the purchase and installation of four emergency generators in order to provide backup power to critical well facilities and one lift station. The locations where the generators are proposed are:

1881 Winnie Lane
4675 East Fifth Street
603 Marsh Road
2201 West College Parkway

The Planning Commission approved the special use permit for the generator on Winnie Lane at its July 2020 meeting. In addition to the subject request, the requests for the generators on East West College Parkway and Marsh Road are on the Commission's September 2020 agenda for consideration.

The facilities where the generators are proposed were determined based on an analysis of the potential damages for loss of water service. A power outage at the subject well 24 would impact water service to 28,701 people as well as businesses.

The well site is located on an approximately 3600 square foot easement area (approximately 60 feet by 60 feet). Two small buildings on are the easement, one houses the well and one houses the equipment. The parent lot is .54 acres and has a home on it. The well site is in the front of the lot, visible from the road.

PUBLIC COMMENTS:

Public notices were mailed to 40 property owners within 300 feet of the subject site on September 17, 2020. As of the writing of this report, staff has not received any written comments. Any comments that are received after this report is completed will be submitted to the Planning Commission prior to or at the meeting on September 30, 2020 depending on the date of submission of the comments to the Planning Division.

OTHER CITY DEPARTMENTS OR OUTSIDE AGENCY COMMENTS:

Plans were routed to commenting agencies, and the following comments were received. Comments have been incorporated into the conditions of approval, as appropriate.

Engineering Division

The Engineering Division has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses. The Engineering Division offers the following discussion:

C.C.M.C. 18.02.080 (5a) - Master Plan
The request is not in conflict with any Engineering Master Plans.

C.C.M.C. 18.02.080 (5b) – Use, Peaceful Enjoyment, Economic Value, Compatibility
Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5c) - Traffic/Pedestrians
The use has no impact on vehicle or pedestrian traffic.

C.C.M.C. 18.02.080 (5d) - Public Services
The use improves the reliability of the City's water system.

C.C.M.C. 18.02.080 (5e) – Title 18 Standards
Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5f) – Public health, Safety, Convenience, and Welfare
The project meets engineering standards for health and safety.

C.C.M.C. 18.02.080 (5g) – Material Damage or Prejudice to Other Property
Development Engineering has no comment on this finding.

C.C.M.C. 18.02.080 (5h) – Adequate Information
The plans and reports provided were adequate for this analysis.

Fire Department

Project must comply with the International Fire Code and northern Nevada fire code amendments as adopted by Carson City.

SPECIAL USE PERMIT FINDINGS: Staff's recommendation is based upon the findings as required by CCMC Section 18.02.062 (Special Use Permits) enumerated below and substantiated in the public record for the project.

1. Will be consistent with the master plan elements.

The Water System Master Plan is an integrated planning document that describes existing regulation and legal commitments, water rights, supply sources, storage and distribution infrastructure and characterization of water use. The generator will allow for the distribution of water consistent with the Master Plan during power outages.

2. Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and will cause no objectionable noise, vibrations, fumes, odors, dust, glare or physical activity.

The well site is located in the northeast corner of the subject property. The site is surrounded by single family residential properties ranging from approximately a third of an acre to approximately a half acre. As part of the operations, the generator will be tested weekly for approximately 30 minutes. At 23 feet away from the source, the decibel level will be 70 decibels. This is essentially the sound of a normal conversation. Given that the generator will be in the middle of a residential neighborhood, staff recommends a condition of approval that testing be scheduled for a weekday mid-afternoon. This would coincide with a time when ambient noise may be greater than in the morning or evening, thus causing any noise from testing to blend in with the background noise.

3. Will have little or no detrimental effect on vehicular or pedestrian traffic.

The addition of a generator to the site will not create a detrimental effect on vehicular or pedestrian traffic. There will be no change to traffic patterns.

4. Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public improvements.

The addition of an emergency generator will not overburden, or even create a demand on public services or facilities. It will allow for more reliable water delivery during times of power outages.

5. Meets the definition and specific standards set forth elsewhere in this title for such particular use and meets the purpose statement of that district.

The subject property is zoned for SF21-P. This zoning district is primarily for single family residences and parks. A municipal well facility is a conditional use in the SF21-P zoning district. The 3600 square foot municipal well site was established with the original Riverview Terrace planned unit development.

The proposed generator will encroach into the required front setback. The applicant is seeking a variance to allow for the encroachment. Provided that applicant can obtain a variance, the request

will be consistent with the purpose statement and standards for the zoning district.

6. The use will not be detrimental to the public health, safety, convenience and welfare.

The emergency generator will not be detrimental to public health, safety, convenience and welfare. Rather, the proposed generator will promote public health and safety by ensuring the availability of water during electricity outages.

7. Will not result in material damage or prejudice to other property in the vicinity.

The proposed emergency generator, subject to the conditions of approval, will not result in material damage or prejudice to other property in the vicinity. As noted, staff was concerned with noise impacts. But with a condition limiting scheduled testing to mid-afternoon on a weekday, staff finds there will not be material damage.

VARIANCE FINDINGS: Staff's recommendation is based upon the findings as required by CCMC Section 18.02.085 (Variance) enumerated below and substantiated in the public record for the project.

1. That because of special circumstances applicable to the subject property, including shape, size, topography or location of surroundings, the strict application of the zoning ordinance would deprive the subject property of privileges enjoyed by other properties in the vicinity or under identical zone classification;

The subject easement that houses the municipal well and associated equipment is approximately 3600 square feet. The setbacks in the SF21-P zoning district presume a lot area of 21,000 square feet. Therefore, the land area where the improvement is contemplated is essentially 17 percent of the minimum lot size for the zoning district. Additionally, the easement area is already improved with one building housing the well, and another building housing the equipment. This creates a constraint as well as the size of the easement.

2. That the granting of the application is necessary for the preservation and enjoyment of substantial property rights of the applicant;

The application is responsible for the provision of water to protect public health and safety. In the case of a power outage, the provision of water to 28,701 people plus businesses may be threatened, thus sacrificing health and safety. The applicant is seeking to install as generator to improve the reliability of the water system, consistent with its responsibility.

The applicant is also responsible for the provision of wastewater collection and treatment. As such, per the State law, the applicant must provide backup power at all sanitary sewer lift station facilities and water pumping facilities. The placement of the generator at the Well 24 site will allow for the removal of the existing Riverview Lift Station generator, currently located in the median in East Fifth Street, and is at the end of its useful life.

3. That the granting of the application will not, under the circumstances of the particular case, adversely affect to a material degree the health or safety of persons residing or working in the neighborhood of the subject property and will not be materially detrimental to the public welfare or materially injurious to property or improvements in the neighborhood of the subject property.

The well site is located in the northeast corner of the subject property. The site is surrounded by single family residential properties ranging from approximately a third of an acre to approximately a half acre. As part of the operations, the generator will be tested weekly for approximately 30 minutes. At 23 feet away from the source, the decibel level will be 70 decibels. This is essentially the sound of a normal conversation. Given that the generator will be in the middle of a residential neighborhood, staff recommends a condition of approval that testing be scheduled for a weekday mid-afternoon. This would coincide with a time when ambient noise may be greater than in the morning or evening, thus causing any noise from testing to blend in with the background noise.

Attachments:
LU-2020-0023 application
VAR-2020-0003 application

CARSON CITY NEVADA
Consolidated Municipality and State Capital
PUBLIC WORKS

July 15th, 2020

Carson City Planning Commission
108 E. Proctor Street
Carson City, Nevada 89701

RE: Special Use Permit Project Description – Carson City Municipal Well 24

Carson City Public Works is proposing to install a diesel generator at the City's Municipal Well 24 site. The improvements would include installing a new generator and fuel tank on a concrete pad in the location indicated on the site map. The generator would be approximately 8'-10" tall, 6'-8" wide, and 18'-7" long. Pipe bollards are to be placed on the driveway side of the generator and existing landscaping is to be repaired. The generator will be housed inside a white, level 2, sound attenuating enclosure. The proposed generator will provide emergency backup power to Well 24 as well as the Riverview Sewer Lift Station.

Carson City has received a grant through the Nevada Department of Emergency Management (NDEM) which funds the installation of emergency generators at four critical well facilities in the City. Well 24 was identified as one of the critical facilities and has the potential to impact 28,000 people in the event of a power outage. Installation of the portable generator will provide resiliency against outages and better service to the residents of Carson City.

Additionally, the generator at Well 24 will provide emergency backup power for Riverview Lift Station. The lift station currently has a diesel generator located in the median directly adjacent to the lift station. The existing generator is at the end of its useful life and will be removed as a part of the Riverview Lift Station Upgrades Project planned to be constructed in the fall of 2020. Due to the need to provide redundant power to the lift station, the City plans to connect the Riverview Lift Station to the new generator at Well 24.

If you have any questions, please feel free to call or email me.

Sincerely,

Darren Anderson, P.E.
Project Manager
Carson City Public Works
danderson@carson.org

3505 Butti Way, Carson City, NV 89701 (775) 887-2355 FAX (775) 887-2112
Operations: Water, Sewer, Streets, Wastewater, Landfill, Environmental
Engineering, Transportation, Capital Projects

Carson City Planning Division
108 E. Proctor Street · Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02.080

SPECIAL USE PERMIT

FEE*: $2,450.00 MAJOR
$2,200.00 MINOR (Residential zoning districts)
+ noticing fee
*Due after application is deemed complete by staff

FILE # LU-2020-0023

APPLICANT	PHONE #
Carson City Public Works	283-7584
MAILING ADDRESS, CITY, STATE, ZIP	
3505 Butti Way, Carson City, NV, 89701	
EMAIL ADDRESS	
danderson@carson.org	
PROPERTY OWNER	PHONE #
Carson City	887-2000
MAILING ADDRESS, CITY, STATE, ZIP	
201 N. Carson St., Carson City, NV, 89701	
EMAIL ADDRESS	
danderson@carson.org	283-7584
APPLICANT AGENT/REPRESENTATIVE	PHONE #
Darren Anderson	283-7584
MAILING ADRESS, CITY STATE, ZIP	
3505 Butti Way, Carson City, NV, 89701	
EMAIL ADDRESS	
danderson@carson.org	

- ☐ **SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 Copies) including:**
  - ☐ Application Form
  - ☐ Detailed Written Project Description
  - ☐ Site Plan
  - ☐ Building Elevation Drawings and Floor Plans
  - ☐ Special Use Permit Findings
  - ☐ Master Plan Policy Checklist
  - ☐ Applicant's Acknowledgment Statement
  - ☐ Documentation of Taxes Paid-to-Date
  - ☐ Project Impact Reports (Engineering)
- ☐ **CD or USB DRIVE with complete application in PDF**

Application Received and Reviewed By:

_____

Submittal Deadline: Planning Commission application submittal schedule.

Note: Submittals must be of sufficient clarity and detail for all departments to adequately review the request. Additional information may be required.

Project's Assessor Parcel Number(s):	Street Address	
01038499	4675 East Fifth Street	
Project's Master Plan Designation	**Project's Current Zoning**	**Nearest Major Cross Street(s)**
Low Density Residential	SF21P	Well Way

Please provide a brief description of your proposed project and/or proposed use below. Provide additional pages to describe your request in more detail.
Carson City Public Works is proposing to place an emergency backup generator at the City's Well 24 site. The City received a FEMA grant to place emergency generators at 4 critical well sites which including Well 24.

PROPERTY OWNER'S AFFIDAVIT

I, Daniel Stucky, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature _____ Address 3505 Butti Way Date 7/21/2020

Use additional page(s) if necessary for additional owners.

STATE OF NEVADA)
COUNTY)

On July 21, 2020, Dan Stucky, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Lena E. Reseck
Notary Public

LENA E. RESECK
NOTARY PUBLIC
STATE OF NEVADA
No. 14-12732-5 My Appt. Exp. March 28, 2022

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.

STATEMENT OF FINDINGS

APPLICATION FOR SPECIAL USE PERMIT

WELL 24 EMERGENCY GENERATOR PROJECT

Question 1: Will be consistent with the objectives of the Master Plan elements.

Installation of the emergency backup generator at Well 24 will be in accordance with Carson City Master Plan. A backup generator program was identified in the 2015 Water Master Plan Update.

The generator will be constructed of long lasting, rust resistant materials and be housed in a neutral colored, level 2, sound attenuating enclosure.

The generator at Well 24 will provide emergency backup power for Riverview Sewer Lift Station which is located in the median of Fifth Street, 500 feet to the east. Riverview Lift Station handles all sanitary sewer flow in the area of the Riverview Estates Subdivision. Backup power for the sewer lift station is critical since it is a state permitting requirement for this type of facility and is necessary in order to ensure that no spills occur in the event of a power outage. Completion of the project will also assist the City in its efforts to continue to provide a reliable supply of water to those connected to the City's water system in turn helping to maintain good quality of life for residents. Installation of the emergency backup generator with help sustainability of our community by adding resiliency to the City's water system.

Question 2: Will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and is compatible with and preserves the character and integrity of adjacent development and neighborhood or includes improvements or modifications either on-site or within the public right-of-way to mitigate development related to adverse impacts such as noise vibrations, fumes, odors, dust, glare or physical activity.

Well 24 is one of several wells serving much of the central and eastern areas of the City. Installation of the emergency generator will help provide water to citizens during power outages.

The generator will operate during power outages if the well is in operation at the time of the outage. The generator will also operate on a scheduled maintenance startup frequency of once a week for 30 minutes. The maintenance startup will be scheduled during daytime weekday hours to minimize disturbance to neighbors.

As a separate phase of the improvements to be completed which are associated with the emergency generator at the Well 24 Site; the City plans to remove the existing generator at the Riverview Lift Station site which is at the end of its useful life. The current generator at Riverview Lift Station is located in the center median of Fifth street, visible to many residents, and has very poor sound attenuation. By removing the generator and re-feeding the power service to the Riverview Lift Station from the Well 24 Site, the Lift Station will be supported by the new generator at the well site. The new generator will be

less visible to residents in the area, have far better sound attenuation, and be more protected against damage by vehicles.

In summary, the new emergency generator will help to provide necessary backup for water and sewer utilities to the residents in the area as well us limit visual impact of the backup facility by relocating it from the center median of Fifth Street to the Well 24 property.

Adjacent properties:

Single Family-21,000 square feet (SF21) in all directions

Question 3: Will have little or no detrimental effect on vehicular traffic or pedestrian traffic.

The project will have no effect on vehicular or pedestrian traffic.

Question 4: Will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.

The project will help improve the public water system and service. Installation of an emergency generator at Well 24 will provide increased reliability of the water system.

Question 5: Meets the definition and specific standards set forth elsewhere in Carson City Municipal Code, Title 18 for such particular use and meets the purpose statement of that district.

The proposed improvements will help the City to continue to use the site as a municipal well facility. The existing uses on City controlled facilities in the area will not change as a result of this project.

Question 6: Will not be detrimental to the public health, safety, convenience and welfare.

This project will help to improve public health, safety, convenience and welfare by adding resiliency to the Riverview Lift Station in addition to Well 24 providing improved reliability of water and sewer services for residents in the area.

Question 7: Will not result in material damage or prejudice to other property in the vicinity, as a result of proposed mitigation measures.

The use of the land will not vary from how it has been previously used. The site will continue to be used as a municipal well facility with the proposed improvements. While some landscaping will need to be

removed to accommodate the footprint of the generator, all other landscaping will remain in place. The well will operate during power outages if the well is in operation at the time of the outage and on a scheduled maintenance startup frequency of once a week for 30 minutes. The maintenance startup will be scheduled during daytime weekday hours to minimize disturbance to neighbors.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.

Applicant's Signature	Print Name	Date
Darren Anderson	Darren Anderson	07/27/2020

Carson City Planning Division
108 E. Proctor Street· Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02.085

MAJOR VARIANCE

FILE # VAR-2020-0003

FEE*: **$2,150.00 + noticing fee**
*Due after application is deemed complete by staff

☐ **SUBMITTAL PACKET – 4 Complete Packets (1 Unbound Original and 3 Copies)**
- ☐ Application Form
- ☐ Detailed Written Project Description
- ☐ Site Plan
- ☐ Building Elevation Drawings and Floor Plans
- ☐ Variance Findings
- ☐ Applicant's Acknowledgment Statement
- ☐ Documentation of Taxes Paid-to-Date

☐ **CD or USB DRIVE with complete application in PDF**

Application Reviewed and Received By:

_____

Submittal Deadline: Planning Commission application submittal schedule.

Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional Information may be required.

APPLICANT: Carson City Public Works	PHONE #: 283-7584
MAILING ADDRESS, CITY, STATE, ZIP: 3505 Butti Way, Carson City, NV, 89701	
EMAIL ADDRESS: danderson@carson.org	
PROPERTY OWNER: Carson City	PHONE #: 887-2000
MAILING ADDRESS, CITY, STATE, ZIP: 201 N. Carson St., Carson City, NV, 89701	
EMAIL ADDRESS: danderson@carson.org	
APPLICANT AGENT/REPRESENTATIVE: Darren Anderson	PHONE #: 283-7584
MAILING ADDRESS, CITY, STATE, ZIP: 3505 Butti Way, Carson City, NV, 89701	
EMAIL ADDRESS: danderson@carson.org	

Project's Assessor Parcel Number(s):	Street Address	
01038499	4675 East Fifth Street	
Project's Master Plan Designation	**Project's Current Zoning**	**Nearest Major Cross Street(s)**
Low Density Residential	SF21P	Well Way

Please provide a brief description of your proposed project below. Provide additional pages to describe your request in more detail.

Carson City Public Works is proposing to place an emergency backup generator at the City's Well 24 site. The City received a FEMA grant to place emergency generators at 4 critical well sites which includes Well 24.

PROPERTY OWNER'S AFFIDAVIT

I, Daniel Stucky, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature _____ Address 3505 Butti Way, Carson City, NV 89701 Date 8/27/20

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY)

On _____, 2___, _____, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

_____
Notary Public

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.

STATEMENT OF FINDINGS

APPLICATION FOR MAJOR VARIANCE

WELL 24 EMERGENCY GENERATOR PROJECT

Question 1: That because of special circumstances to the subject property, including shape, size, topography or location of surroundings, the strict application of the zoning ordinance would deprive the subject property of privileges enjoyed by other properties in the vicinity or under identical zone classifications.

The subject property was granted as an easement to the City in order to construct a well. The size of the property was determined in order to house the well facility and equipment with minimal additional space in order to limit the impact to the adjacent property that the easement was granted from. Due to the limited space within the easement area, the City is proposing to install the generator towards the front of the property, encroaching the minimum front setback of 20'.

There are 3 areas within the property that have enough space for the generator. The City considered the different locations before determining the location shown as the best location. The two other locations considered were the space in the southwest corner of the property and space along the eastern fence of the property. The southwest corner of the property would require the generator to be placed on top of critical underground components of the well. Additionally, access for placement of the generator and any extensive repair and maintenance would need to be from the adjacent property owner's driveway. The location along the eastern fence does not allow for adequate room to open the generator doors and effectively perform repair and maintenance, and would encroach on the side property setback.

Part of the City's 2015 Water Master Plan Update includes a backup generator program which is necessary to provide reliable service to residents and businesses throughout the City. Well 24 was selected as one of the most critical sites to maintain power during a power outage and in order to provide a satisfactory level of service to water users.

Question 2: That the granting of the application is necessary for the preservation and enjoyment of substantial property rights of the applicant.

The City obtained the easement for the sole purpose of operating a well. Allowing the placement and installation of the emergency backup generator will allow the City to continue to use the property for the purpose it was originally acquired. The City is proposing to install the generator in order to meet State regulations which require standby power to be provided for pumping facilities.

Question 3: That granting of the application will not, under the circumstances of the particular case, adversely affect to a material degree the health or safety of persons residing or working in the neighborhood of the subject property and will not be materially detrimental to the public welfare or materially injurious to property or improvements in the neighborhood of the subject property.

Well 24 is one of several wells serving much of the central and eastern areas of the City. Installation of the emergency generator will help maintain supply and pressure of water to citizens during power outages and help to avoid material or adverse effects that could be caused in the neighborhood if backup power were not provided.

As a separate phase of the improvements to be completed which are associated with the emergency generator at the Well 24 Site; the City plans to remove the existing generator at the Riverview Lift Station site which is at the end of its useful life. The current generator at Riverview Lift Station is located in the center median of Fifth street, visible to many residents, and has very poor sound attenuation. By removing the generator and re-feeding the power service to the Riverview Lift Station from the Well 24 Site, the Lift Station will be supported by the new generator at the well site. The new generator will be less visible to residents in the area, have far better sound attenuation, and be more protected against damage by vehicles.

State regulations require the City to provide backup power at all sanitary sewer lift station facilities and water pumping facilities. Adding the generator at the Well 24 site will allow the City to meet this requirement, protect the environment, and provide resiliency to both the sanitary sewer and water systems.

The generator will operate during power outages if the well is in operation at the time of the outage. The generator will also operate on a scheduled maintenance startup frequency of once a week for 30 minutes. The maintenance startup will be scheduled during daytime weekday hours to minimize disturbance to neighbors.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.

Applicant's Signature	Print Name	Date
Darren Anderson	Darren Anderson	8/28/2020

Master Plan Policy Checklist

Special Use Permits & Major Project Reviews & Administrative Permits

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to non-residential and multi-family residential development. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: _____

Reviewed By: _____

Date of Review: _____

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed development meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN

The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

- ☐ Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?
- ☑ Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?
- ☐ Located in a priority infill development area (1.2a)?
- ☐ Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

- ☑ Protect existing site features, as appropriate, including mature trees or other character-defining features (1.4c)?
- ☐ At adjacent county boundaries or adjacent to public lands, coordinated with the applicable agency with regards to compatibility, access and amenities (1.5a, b)?
- ☐ In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?
- ☐ Meet adopted standards (e.g. setbacks) for transitions between non-residential and residential zoning districts (2.1d)?
- ☐ Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?
- ☐ Sited outside the primary floodplain and away from geologic hazard areas or follows the required setbacks or other mitigation measures (3.3d, e)?
- ☐ Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?
- ☐ If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

Is or does the proposed development:

- ☐ Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?
- ☐ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

CHAPTER 5: ECONOMIC VITALITY

The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

- ☐ Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1j)
- ☐ Encourage the development of regional retail centers (5.2a)
- ☐ Encourage reuse or redevelopment of underused retail spaces (5.2b)?
- ☐ Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?
- ☐ Promote revitalization of the Downtown core (5.6a)?
- ☐ Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.

Is or does the proposed development:

- ☐ Use durable, long-lasting building materials (6.1a)?
- ☐ Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1b)?
- ☐ Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?
- ☐ Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?
- ☐ If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?
- ☐ If located Downtown:
  - ☐ Integrate an appropriate mix and density of uses (8.1a, e)?
  - ☐ Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?
  - ☐ Incorporate appropriate public spaces, plazas and other amenities (8.1d)?
- ☐ Incorporate a mix of housing models and densities appropriate for the project location and size (9.1a)?

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational

amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed development:

- ☐ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?
- ☐ Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?
- ☐ Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan (12.1a, c)?

Cat® C13 DIESEL GENERATOR SETS

Image shown might not reflect actual configuration

350 ekW- 400 ekW

60 Hz

Standby	Prime
350 ekW	320 ekW
400 ekW	365 ekW

BENEFITS & FEATURES

CAT® GENERATOR SET PACKAGE

Cat generator set packages have been fully prototype tested and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, conform to the ISO 8528-5 steady state and fill transient response requirements.

CAT DIESEL ENGINES

The four-cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide in emergency standby installations.

COOLING SYSTEM

The cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat dealer for specific ambient and altitude capabilities.

GENERATORS

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry-leading motor starting capability and altitude capabilities.

EMCP CONTROL PANELS

The EMCP controller features the reliability and durability you have to come to expect from your Cat equipment. The EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

SPECIFICATIONS

ENGINE SPECIFICATIONS

Engine Model	Cat® C13 ACERT In-line 6, 4-cycle diesel
Bore x Stroke	130mm x 157mm (5.1in x 6.2in)
Displacement	12.5 L (763 in^3)
Compression Ratio	16.3:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4
Emission Certifications	EPA TIER III

GENERATOR SET SPECIFICATIONS

Alternator Design	Brushless Single Bearing, 4 Pole
Stator	2/3 Pitch
No. of Leads	12
Available Voltage Options	600/480/440/240/220V
Frequency	60Hz
Alternator Voltage	24V
Alternator Insulation & IP	Class H; IP23
Standard Temperature Rise	125/130 Deg C
Available Excitation Options	Self-Excited, PMG
Voltage Regulation, Steady State +/-	≤1%

Cat® C13 DIESEL GENERATOR SETS

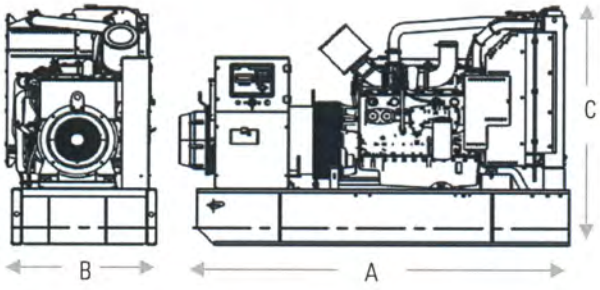
STANDARD EQUIPMENT

Air inlet system	Aftercooler core. Turbocharger
Control panels	EMCP4.2 control panel.
Cooling system	Coolant drain line with valve; terminated on edge of base. Fan and belt guards. Coolant Level Sensor Thermostats and housing, full open temperature 92 deg C (198 deg F). Coolant level sight gauge. Jacket water pump, gear driven, centrifugal. Caterpillar Extended Life Coolant.
Exhaust system	Exhaust manifold; dry.
Fuel system	Primary fuel filter w/integral water separator & secondary filter. Fuel cooler. Fuel priming pump. Flexible fuel lines. Engine fuel transfer pump
Generators and generator attachments	Brushless, self-excited 2/3 pitch, random wound. IP23 Protection. Insulation Class H and temperature rise Power centre, IP22 bottom cable entry Segregated low voltage wiring pane
Governing system	Cat Electronic Governor (ADEM A4).
Protection System	Safety Shutoff – High Water Temperature Safety Shutoff – Low Oil Pressure Safety Shutoff – Overspeed Coolant Level Sensor
Base / Fuel Tank	Narrow Skid Wide / Standard Sub Tank Base – UL & ULC Listed Integral Tank Base – UL & ULC Listed Spill Containment Overfill Prevention Valve
Starting/charging system	24-Volt Electric Starting Motor Charging Alternator
Certifications	EPA Stationary Emergency Use

OPTIONAL EQUIPMENT

Air inlet system	Single/Dual Element Air Cleaner Heavy Duty Air Cleaner
Control panels	EMCP 4.4 Local Annunciator Remote Annunciators Discrete I/O Module Device Server Volt Free Contact Earth (Ground) Fault Relay
Circuit Breakers	3-Pole 100% Rated – Single (Manual & Motorized). 3-Pole 100% Rated – Dual & Third (Manual). External Paralleling Auxiliary Contacts Neutral Bar
Enclosures	Sound Attenuated (SA). Weather Protective
Cooling system	Stone guards.
Mufflers	Industrial grade (10 dBA) Residential and Critical grade (25 dBA)
Base / Fuel Tank	Audio & Visual Fuel Alarm
Fuel System	Integral 670 Gal Tank Base Sub Tank Bases:660, 1000, 1900, 2200 Gal
Generators and generator attachments	Excitation – Self Excitation – Internal / AREP / PMG Oversize Coastal Protection (CIP) Space Heater Control
Starting/charging system	Standard Battery Set Oversize Battery Set.
Certifications	UL2200 Listed CSA 22.2 Certification of Compliance – IBC Seismic Certification of Compliance – IBC Seismic and OSHPD
General	Tool Set.

WEIGHTS & DIMENSIONS



Standby Ratings	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
350 ekW	3505 (138)	1652 (65)	2069 (82)	3696 (8147)
400 ekW	3505 (138)	1652 (65)	2069 (82)	3823 (8427)

Cat® C13 INTEGRAL & SUB BASE FUEL TANKS

Image shown might not reflect actual configuration

INTEGRAL & SUB BASE FUEL TANKS

FEATURES

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Lockable fuel fill cap, 4" (101.6 mm) NPT
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment.
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30
- Rear stub-up access

SUB BASE

- The sub-base fuel tank mounts below the generator set wide base

INTEGRAL

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator.

OPTIONS

- Audio/visual fuel level alarm panel
- 5gal (18.9 L) spill containment
- 5gal (18.9 L) spill containment with fuel fill drop tube with in 6" (152 mm) from bottom of tank
- 5gal (18.9 L) spill containment with overfill prevention valve and fuel fill drop tube with in 6" (152 mm) from bottom of tank
- ULC Listed 7.5gal (28.4 L) spill containment with vent extensions, vent whistle, and drop tube facilitating compliance with CSA B139-09
- ULC Listed 7.5gal (28.4 L) spill containment with overfill prevention valve, vent extensions, vent whistle and drop tube facilitating compliance with CSA B139-09

Cat® C13 INTEGRAL & SUB BASE FUEL TANKS

Integral & Sub-Base Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

Integral – Width (W) 2014 mm (79.3 in)

Sub-base – Width (W) 2056 mm (81.0 in)

A. Open Set & Weather Protective Enclosure

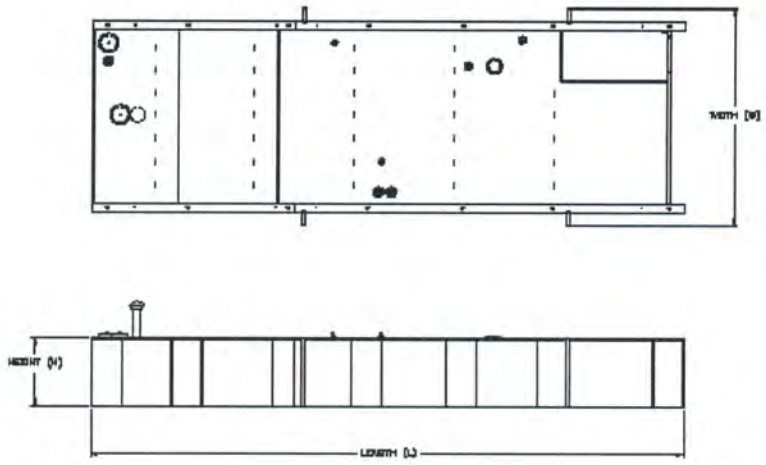
C13 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Litre	Gallon	litre	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW013	2646	699	2540	671	1569	3450	762	30	5461	215	2552	100.5	2743	108
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25	5550	218.5	2763	108.8	2955	116.3
Sub-Base	FTDW006	7643	2019	7556	1996	2228	4912	889	35	6184	243.5	3017	118.8	3209	126.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	4134	889	35	7074	278.5	2291	117.8	3789	149.2
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25	3810	150	2763	108.8	2955	116.3

B. Sound Attenuated Enclosure

C13 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		litre	Gallon	litre	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW013	2646	699	2540	671	1569	3450	762	30.0	5461	215.0	NA	NA	2743	108.0
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	NA	NA	2955	116.3
Sub-Base	FTDW006	7643	2019	7556	1996	2033	4483	889	35.0	6184	243.5	NA	NA	3209	126.3
Sub-Base	FTDW007	8339	2203	8244	2178	2292	5052	889	35.0	7074	278.5	NA	NA	3209	126.3
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	NA	NA	2955	116.3

C. Estimated Run Time (Hours) at 100% Load

C13 Tank Design	Feature Code	Standby Ratings (ekW)		Prime Ratings (ekW)	
		400	350	350	320
Integral Tank	FTDW013	24	27	25	29
Sub-Base	FTDW005	36	41	38	43
Sub-Base	FTDW006	71	80	74	85
Sub-Base	FTDW007	77	87	81	93
Sub-Base	FTDW011	23	25	24	27



The heights listed above do not include lumber used during manufacturing and shipping

Tanks with full electrical stub-up area include removable end channel. Tanks with RH stub-up include stubup area directly below the circuit breaker or power terminal strips. Dimensions include weather-protective enclosure exhaust system.

Dual wall sub-base tanks are UL Listed and constructed in accordance with UL Standard for Safety UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and Canada CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

The following sub-base fuel tanks meet Chicago code for containment and labelling:

FTDW005

FTDW008

FTDW011

Cat® C13 ENCLOSURES

Image shown might not reflect actual configuration

SOUND ATTENUATED & WEATHER PROTECTIVE ENCLOSURES

60 Hz

FEATURES

Robust / Highly Corrosion Resistant Construction

- Factory installed on skid base
- Environmentally friendly, polyester powder baked paint
- 14 gauge steel
- Interior zinc plated fasteners
- Exterior stainless steel fasteners
- Internally mounted exhaust silencing system
- Designed and tested to comply with UL 2200 Listed generator set package
- Compression door latches providing solid door seal

Excellent Access

- Large cable entry area for installation ease
- Accommodates side mounted single or multiple breakers
- Three doors on both sides
- Vertically hinged allow 180° opening rotation and retention with door stays
- Lube oil and coolant drains piped to the exterior of the enclosure base
- Radiator fill cover

Security and Safety

- Lockable access doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill and battery can only be reached via lockable access
- Externally mounted emergency stop button
- Designed for spreader bar lifting to ensure safety
- Stub-up area is rodent proof

Transportability

- These enclosures are of extremely rugged construction to withstand outdoor exposure and rough handling common on many construction sites.

Options (Sound Attenuated)

- Enclosure constructed with 14 gauge steel
- Enclosure constructed with 12 gauge aluminum (5052 grade)
- Caterpillar yellow or white paint
- Control panel viewing window
- UL Listed integral fuel tank with 670, 400, and 300 gallon capacities
- UL Listed sub base fuel tank with 660, 1000, 1900, and 2200 gallon capacities.
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010
- IBC Certification for 150 mph wind loading
- AC/DC lighting package
- 5 kW Canopy space heater to facilitate compliance with NFPA 110
- Motorized louvers and gravity discharge damper
- 125A Load Center
- GFCI outlets

Options (Weather Protective)

- Caterpillar Yellow or white paint
- UL Listed integral fuel tank with 680, 400, and 300 gallon capacities
- UL Listed sub-base fuel tank with 660, 1000, 1900, and 2200 gallon capacities.
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010.
- IBC Certification for 150 mph wind loading
- Anchoring details are site specific and are dependent on many factors such as generator set size, weight, and concrete strength. IBC Certification requires that the anchoring system used is reviewed and approved by a professional engineer.
- AC/DC lighting package

Cat® C13 ENCLOSURES

Enclosure Package Operating Characteristics

Enclosure Type	Standby ekW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	°C	°F	100% Load
Level 1 Sound Attenuated Enclosure (Steel)	350	8.5	18010	57	135	74
	400	8.5	18010	56	133	75
Level 2 Sound Attenuated Enclosure (Steel)	350	7.2	15256	50	122	70
	400	7.2	15256	50	122	70
Sound Attenuated Enclosure (Aluminum)	350	8.5	–	57	135	75
	400	8.5	–	56	133	75
Weather Protective Enclosure	350	8.5	–	54	129	87
	400	8.5	–	53	127	88

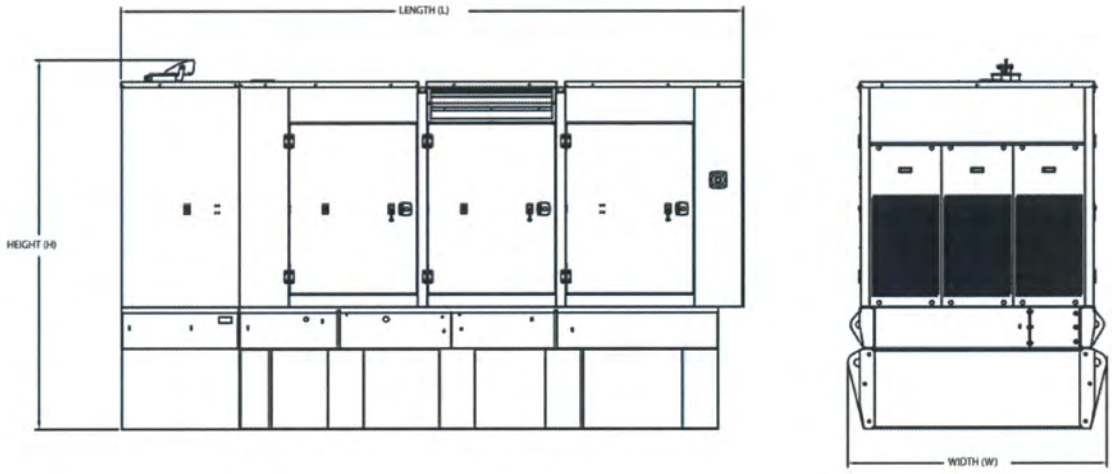
Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

DIMENSIONS

Enclosure Type	Standby Ratings, ekW	Length, L		Width, W		Height, H	
		mm	in	mm	in	mm	in
Sound Attenuated Enclosure on Skid Base	350	4948	194.8	2014	79.3	2320	91.3
	400						
Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base	350	5461	215.0	2014	79.3	2743	108.0
	400						
Sound Attenuated Enclosure on a UL Listed 660 Gallon Sub-Base Fuel Tank Base	350	4948	194.8	2056	80.9	2955	116.3
	400						
Sound Attenuated Enclosure on a UL Listed 1000 Gallon Sub-Base Fuel Tank Base	350	5751	226.4	2056	80.9	2955	116.3
	400						
Sound Attenuated Enclosure on a UL Listed 1900 Gallon Sub-Base Fuel Tank Base	350	6382	251.2	2056	80.9	3209	126.3
	400						
Sound Attenuated Enclosure on a UL Listed 2200 Gallon Sub-Base Fuel Tank Base	350	7074	278.5	2056	80.9	3209	126.3
	400						
Weather Protective Enclosure on Skid Base	350	4948	194.8	2014	79.3	2320	91.3
	400						
Weather Protective Enclosure on a UL Listed Integral Fuel Tank Base	350	5461	215.0	2014	79.3	2743	108.0
	400						

Component Weights to Calculate Package Weight

Standby ekW	Narrow Skid Base		Wide Skid Base		Sound Attenuated Enclosure (Steel)		Sound Attenuated Enclosure (Aluminum)		Weather Protective Enclosure	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
350 400	253	578	579	1276	1245	2745	765	1687	1166	2570



EMCP 4 CONTROL KEY FEATURES

EMCP 4 control features

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency Stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:

- 4 digital inputs & 4 relay outputs (4.1)
- 6 digital inputs & 8 relay outputs (4.2)
- 12 digital inputs & 8 relay outputs (4.4)
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

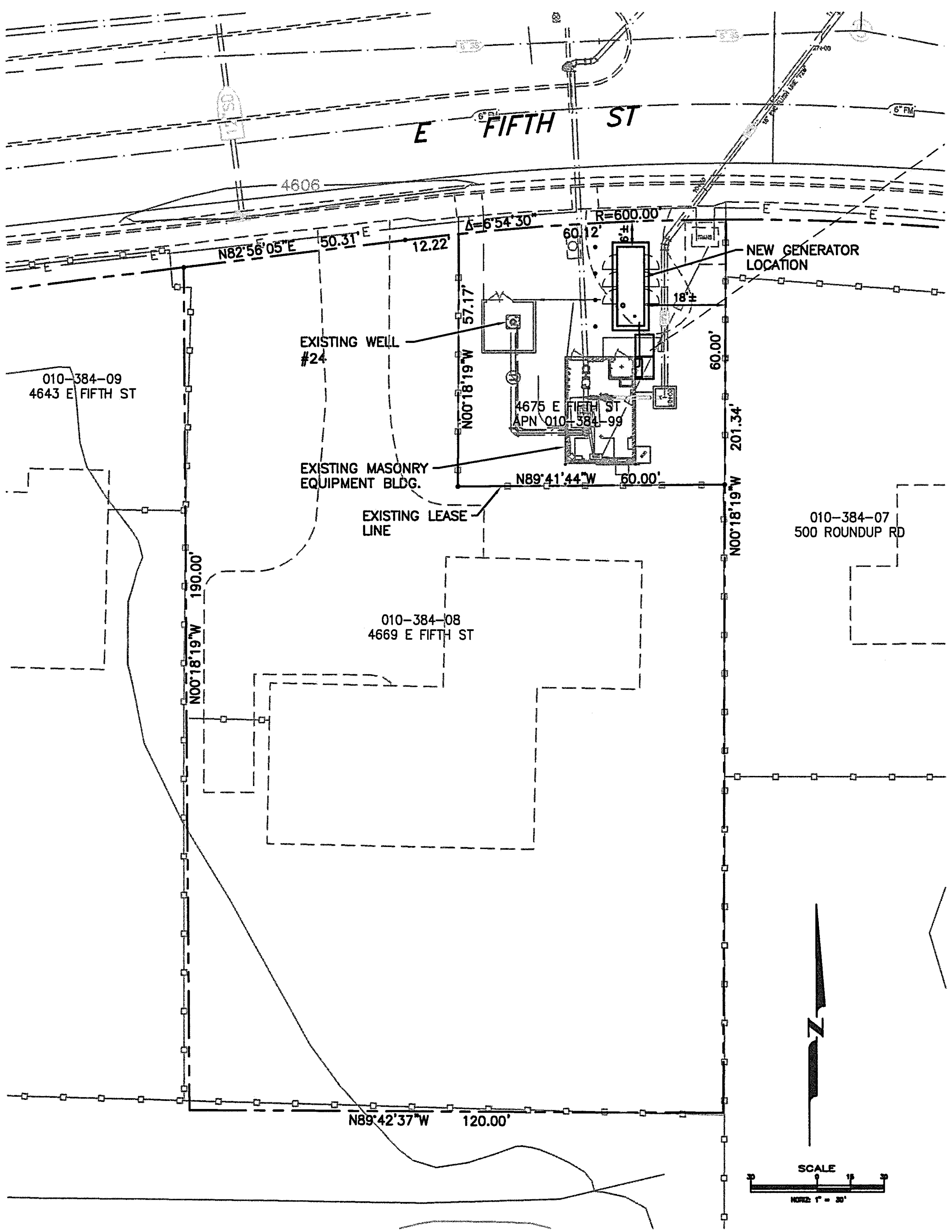
FINANCING

Caterpillar offers an array of financial products to help you succeed through financial service excellence. Options include loans, finance lease, operating lease, working capital, and revolving line of credit. Contact your local Cat dealer for availability in your region.

WORLDWIDE PRODUCT SUPPORT

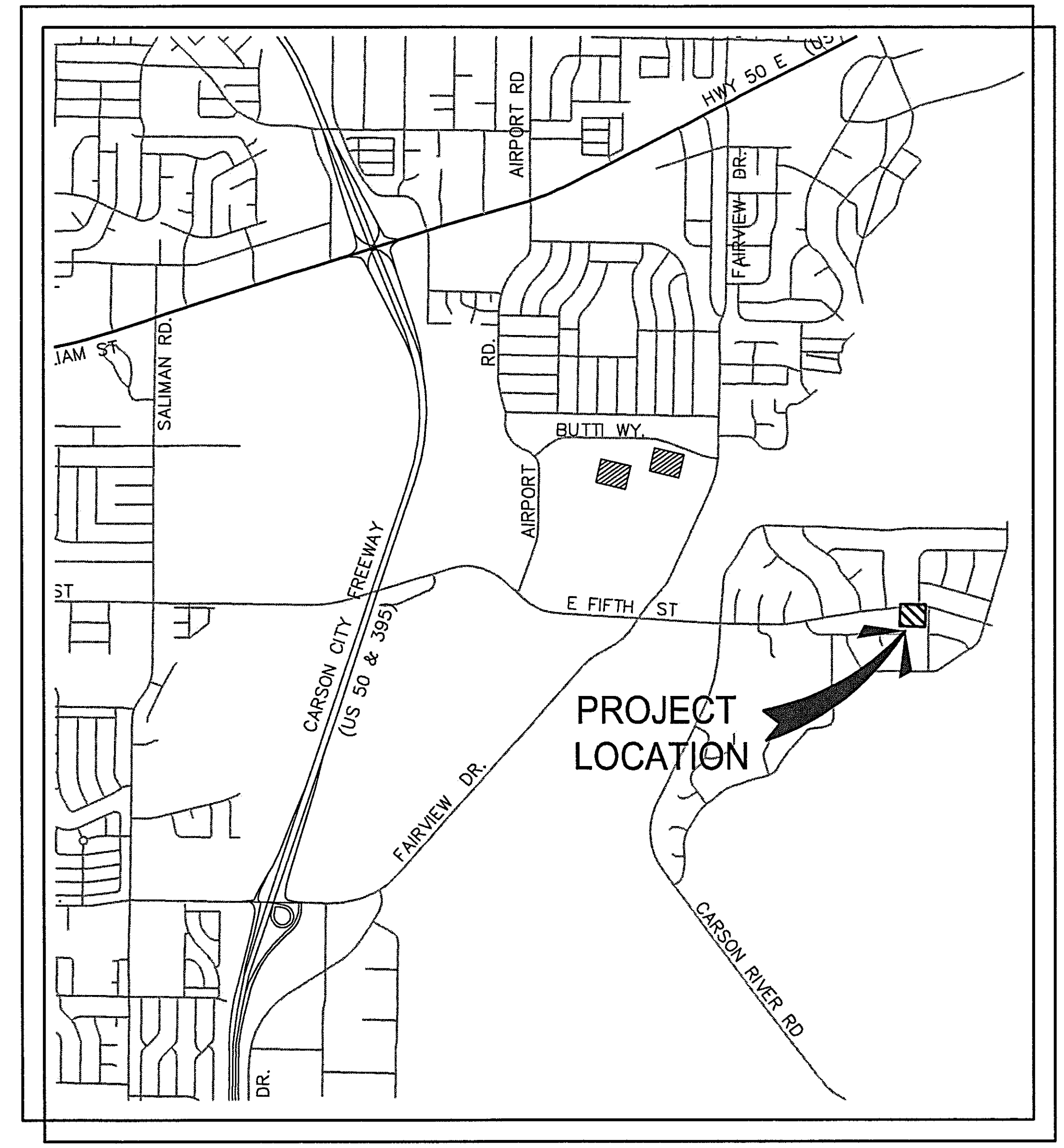
Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar® SOS℠ program effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

LEHE1571-01 (01/19)



WELL #24 SITE PLAN

SCALE: 1"=30'



VICINITY MAP

NO SCALE

OWNER:	CARSON CITY 201 N. CARSON ST. CARSON CITY, NV 89701 (775) 887-2000
APPLICANT:	CARSON CITY PUBLIC WORKS DEPT. 3505 BUTTI WY CARSON CITY, NV 89701 (775) 283-7584
REQUEST:	INSTALLATION OF NEW PAD MOUNTED GENERATOR & TRANSFER SWITCH
LOCATION:	APN 010-384-99
ZONING:	SF21P
MASTER PLAN LAND USE DESIGNATION:	SINGLE FAMILY RESIDENCE
SITE PLAN PREPARED BY:	CARSON CITY PUBLIC WORKS DEPT.

DESIGNED BY: DA
DRAWN BY: JF
CHECKED BY: DA
DWG NO.: WELL24-SUP.dwg
SCALE (HORIZ): AS SHOWN
SCALE (VERT): N/A
PLOT DATE: July 8, 2020

CARSON CITY PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

REV.	DATE	DESCRIPTION	BY	APP'D

CARSON CITY PRODUCTION WELLS
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT No. P350518078

WELL #24 SPECIAL USE PERMIT SITE PLAN

SHEET 1 OF 1

CARSON CITY PRODUCTION WELLS
PERMANENT EMERGENCY GENERATORS
WELL #24 PROJECT

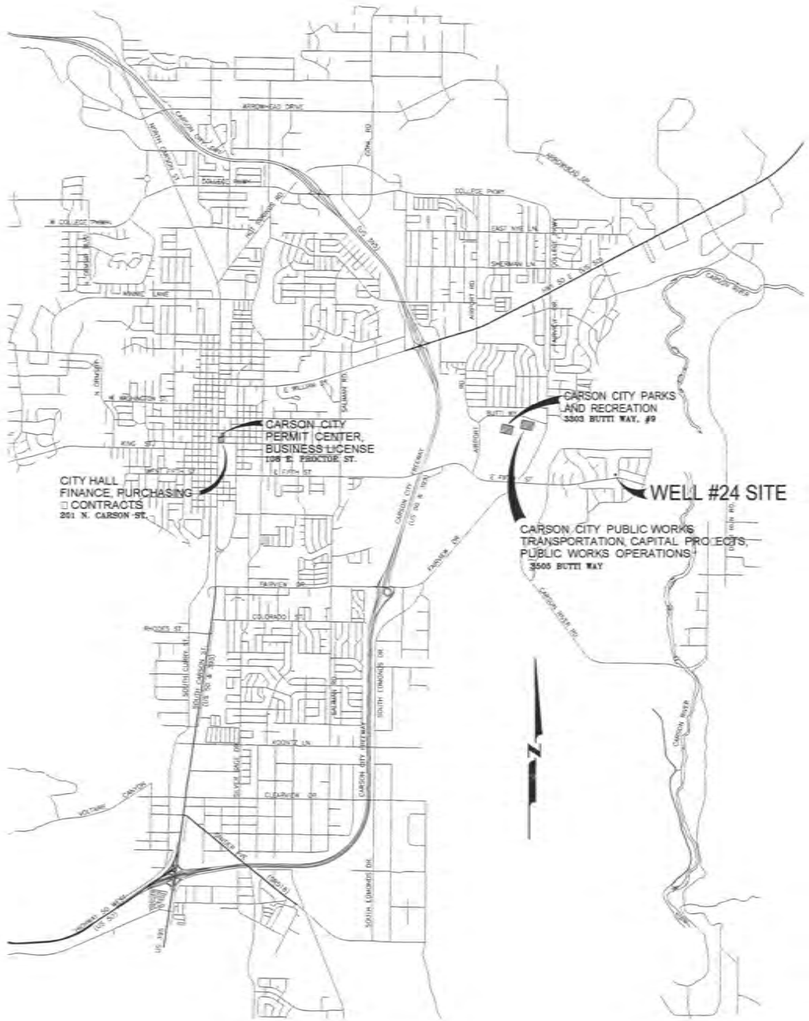
PROJECT P350518078

BOARD OF SUPERVISORS

Robert Crowell	Mayor
Stacey Giomi	Supervisor
Brad Bonkowski	Supervisor
Lori Bagwell	Supervisor
John Barrette	Supervisor
Aubrey Rowlatt	City Clerk

DESIGNED FOR:

CARSON CITY PUBLIC WORKS DEPARTMENT
OPERATIONS DIVISION
3505 BUTTI WAY
CARSON CITY, NV 89701
887-2355



VICINITY MAP
N.T.S.

SHEET INDEX

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

DESIGNED BY: DA
DRAWN BY: JF
CHECKED BY: DA
DWG NO. sht01 to sht08
SCALE (HORIZ): N/A
SCALE (VERT): N/A
PLOT DATE: 2020JAN07

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

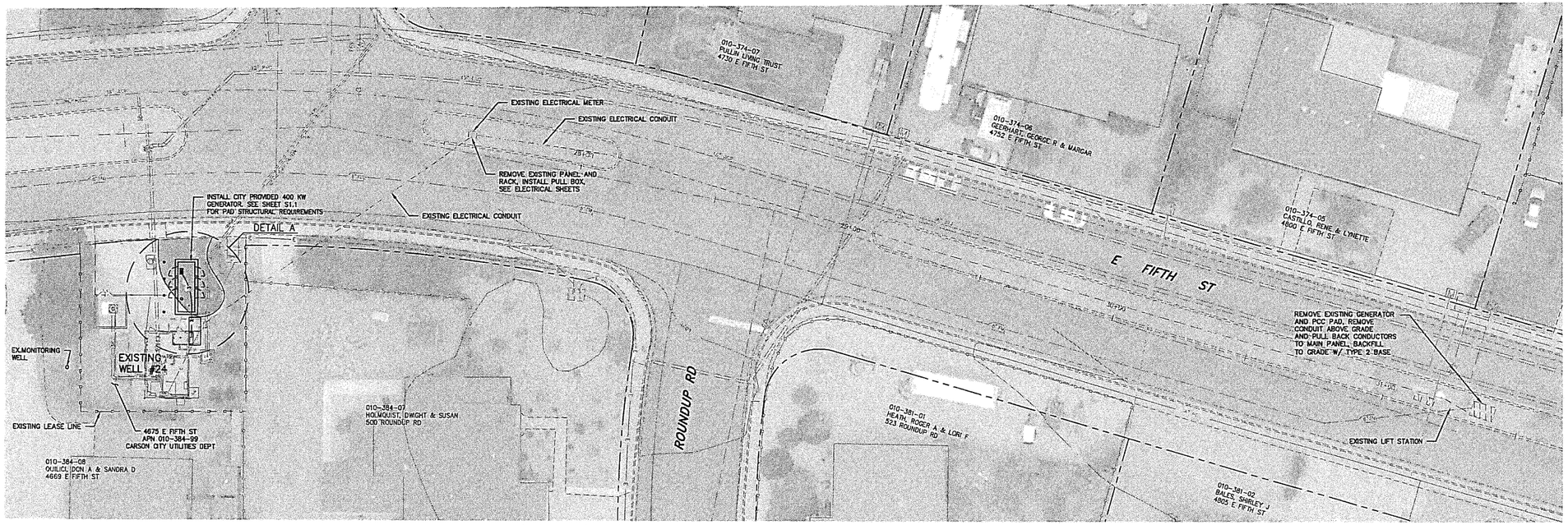
PROFESSIONAL ENGINEER - STATE OF NEVADA
DARREN S. ANDERSON
Exp: 12/31/20
CIVIL
No. 23728
2/10/2020

REV.	DATE	DESCRIPTION	BY	APP'D

CARSON CITY PRODUCTION WELLS
PERMANENT EMERGENCY GENERATORS
WELL #24 PROJECT
PROJECT No. P350518078
TITLE SHEET

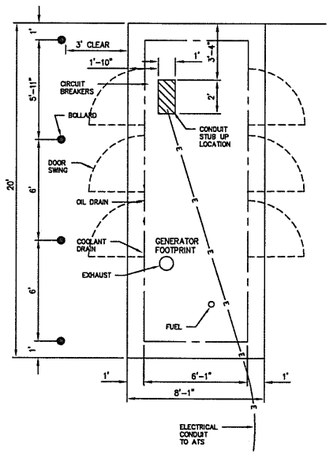
SHEET C1 OF 8

BID SET PLANS



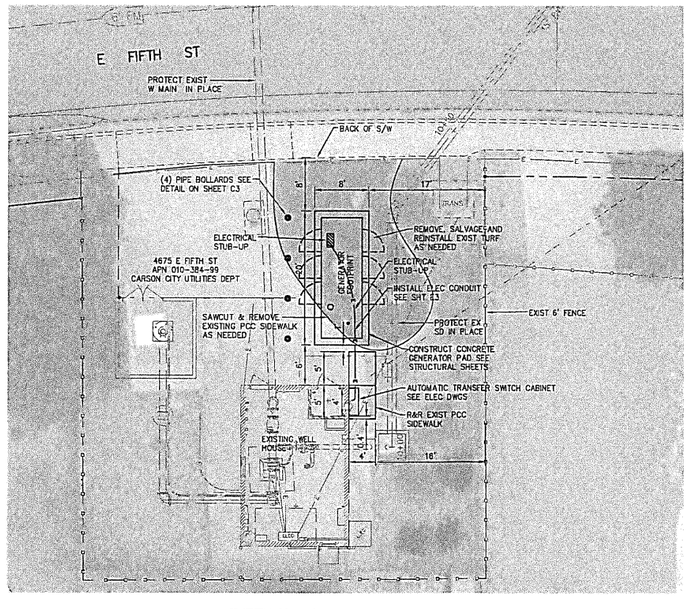
WELL #24 SITE PLAN

SCALE: 1" = 20'



WELL #24 GENSET

SCALE: 1/4"=1'



DETAIL A

SCALE: 1" = 10'

REFERENCE CODES

2009 ICC/ANSI A117.1
2017 National Electrical Code
2018 International Building Code
2018 International Energy Conservation Code
2018 International Fire Code
2018 International Fuel Gas Code
2018 Northern Nevada International Fire Code Amendments
2018 Northern Nevada Amendments

N

SCALE
20 0 10 20
HORIZ 1" = 20'

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

REV.	DATE	DESCRIPTION	BY	APP'D

DESIGNED BY: DA
DRAWN BY: JF
CHECKED BY: DA
DWG NO.WELL24_SITE.dwg
SCALE (HORIZ): AS SHOWN
SCALE (VERT): N/A
PLOT DATE: 2020JAN07

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

PROFESSIONAL ENGINEER STATE OF NEVADA
DARREN S. ANDERSON
Exp: 12/31/20
CIVIL
No. 23728
2/10/2020

CARSON CITY PRODUCTION WELLS
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT No. P3505180?8

WELL #24 SITE PLAN

SHEET C2 OF 8

BID SET PLANS

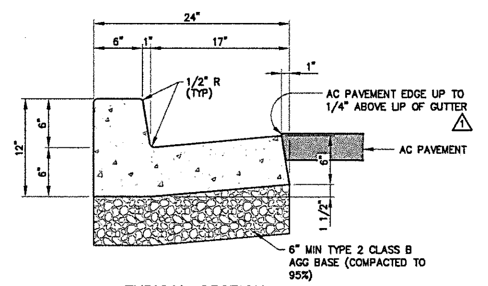
S:\CAPITAL PROJECTS\Projects\P3505180?8-PermanentEmergencyGeneratorsProject\02Design\Dwg\WELL24 SITE.dwg 1/9/20

1. ALL WORK SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC) AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPWC) AS ADOPTED BY CARSON CITY. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.
2. ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL CONFORM TO SECTION 100.33, 332.04 AND 332.05 OF THE STANDARD SPECIFICATIONS, PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE UNR T2 CENTER, TEMPORARY TRAFFIC CONTROL GUIDELINES LATEST EDITION. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CARSON CITY ENGINEERING DIVISION PRIOR TO ANY STREET CLOSURES.
3. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (811) OR 1-800-227-2600) AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC 455 THROUGHOUT THE COURSE OF THE WORK, SEWER SERVICE LATERALS ARE NOT OWNED OR MARKED BY CARSON CITY.
4. THE CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (887-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENTS.
5. FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.
6. MODIFICATIONS TO THE APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY THE CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT THE CONTRACTORS EXPENSE.
7. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
8. PLAN APPROVAL FOR SEWER AND WATER CONSTRUCTION SHALL EXPIRE ONE YEAR FROM DATE OF APPROVAL UNLESS CONSTRUCTION HAS BEEN INITIATED. (CCMC 12.06.180F, 12.01.1400)
9. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2013).
10. (△1) THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR LOCATING EXISTING UTILITIES. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THESE LOCATIONS AT THE PROPOSED POINTS OF CONNECTIONS AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION, PRIOR TO BEGINNING CONSTRUCTION. POTHOLING IS REQUIRED. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THE CONSTRUCTION DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
11. (△1) THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
12. (△1) SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THE CONSTRUCTION PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTE 10,11,12	9/17	GENERAL NOTES	DRAWING NO. C-1.1.1
APPROVED BY: [signature]		9/17		DATE SEP 2017

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED AND APPROVED BY CARSON CITY PUBLIC WORKS.
2. (△1) PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARDS WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. (△1) ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
4. (△1) IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY PUBLIC WORKS. A MINIMUM SURFACE OF 4 FEET X 4 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE AND A MINIMUM SURFACE OF 4 FEET CLEAR IS REQUIRED WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE, UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
5. (△1) ALL CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE AT THE NEAREST CONTROL JOINT.
6. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
7. NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.
8. (△1) AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTE 2,3,4,5,8	9/17	SIDEWALK AND DRIVEWAY GENERAL NOTES	DRAWING NO. C-5.2.1
APPROVED BY: [signature]		9/17		DATE SEP 2017

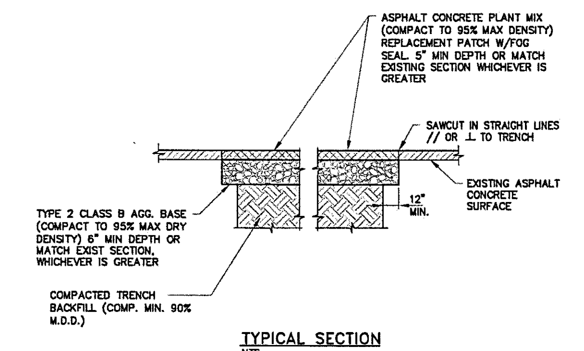


TYPICAL SECTION
NTS

NOTES:

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. (△1) ALL CONCRETE CURB & GUTTER SHALL HAVE 1/2 INCH EXPANSION JOINTS AT ALL CURB RETURNS AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.1.3 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
3. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
4. (△1) CURB & GUTTER SHALL BE POURED SEPARATELY/NON-MONOLITHCALLY FROM SIDEWALK.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTES 2 & 4	9/17	PCC CURB & GUTTER TYPE 1	DRAWING NO. C-5.1.3
APPROVED BY: [signature]		9/17		DATE SEP 2017

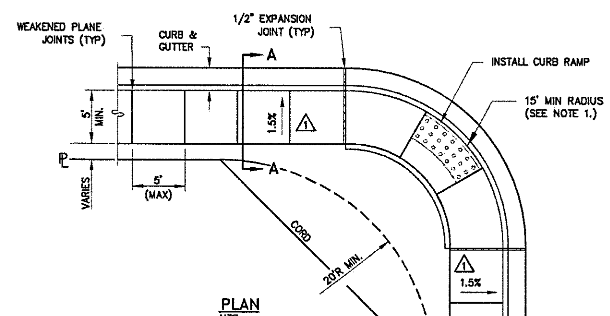


TYPICAL SECTION
NTS

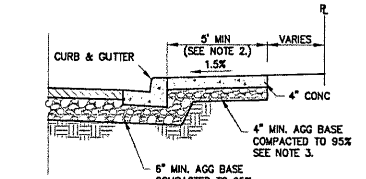
NOTES:

1. IF SAWCUT IS WITHIN 24 INCHES OF EDGE OF A.C. PAVEMENT REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
2. BITUMINOUS MATERIAL SHALL MEET THE REQUIREMENTS OF SECTIONS 201 AND 320 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. MIXING, SPREADING, AND COMPACTING OF BITUMINOUS PAVEMENT SHALL BE DONE ONLY WHEN THE SURFACE ON WHICH THE MATERIALS ARE TO BE PLACED IS DRY AND WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND HAS NOT BEEN BELOW 40 DEGREES FAHRENHEIT DURING THE PRECEDING 24 HOURS.
4. FINISHED SURFACE VARIATIONS SHALL BE 0 TO 0.25 INCHES ABOVE EXISTING SURFACE. ALL HUMPS EXCEEDING THIS TOLERANCE SHALL BE CORRECTED BY REMOVAL OF MATERIAL AND REPLACING IT WITH NEW MATERIAL. FINISHED SURFACE OF PATCH SHALL NOT BE BELOW EXISTING ADJACENT SURFACE.
5. (△2) PLANTMIX BITUMINOUS PAVEMENT SURFACE AND SUB SURFACE COURSES SHALL BE PG-64-22 TYPE 3 WITH LIME 50 BLOW AND 15% RAP MAX. UNLESS OTHERWISE NOTED.
6. PLANTMIX BITMUMINOUS PAVEMENT PATCHES SHALL MATCH EXISTING SECTION OR HAVE A MINIMUM THICKNESS OF 5 INCHES, WHICHEVER IS GREATER.
7. PLANS SHALL SPECIFY PAVEMENT PATCH AND AGGREGATE BASE DEPTHS AS SPECIFIED BY THE DESIGN ENGINEER.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	5" AC DEPTH	09/11	PAVEMENT PATCH	DRAWING NO. C-5.1.6
△2	NOTE 5	9/17		
APPROVED BY: [signature]		9/17		DATE SEP 2017



PLAN
NTS

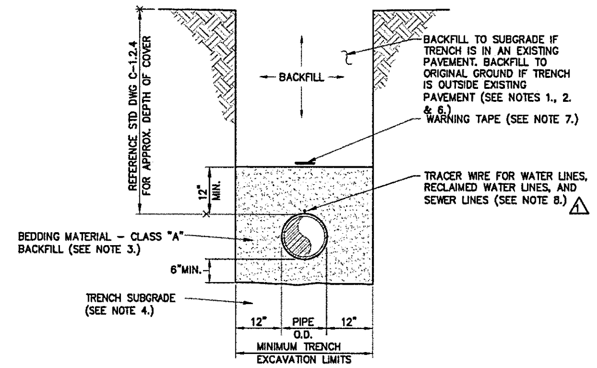


SECTION A-A
NTS

NOTES:

1. MINIMUM CURB RETURN RADIUS SHALL BE 15 FEET UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
2. SOME STREETS MAY REQUIRE WIDER SIDEWALKS.
3. (△1) SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%
4. (△1) SIDEWALK SHALL BE POURED NON-MONOLITHICALY FROM CURB AND GUTTER.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTE 3 & 4	9/17	TYPE "A" SIDEWALK	DRAWING NO. C-5.2.2
APPROVED BY: [signature]		9/17		DATE SEP 2017

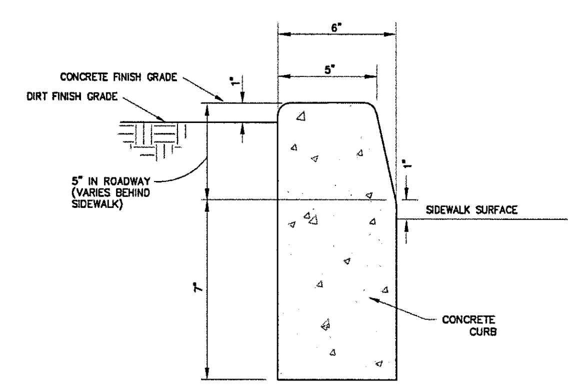


TYPICAL TRENCH SECTION
NTS

NOTES:

1. WATER DENSIFIED BACKFILL AND TUNNELING SHALL BE BY SPECIAL PROVISION ONLY.
2. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS E BACKFILL AS SPECIFIED IN SUBSECTION 200.03.06 OF THE SSPWC. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305.10 OF THE SSPWC AND DENSIFIED TO 90% RELATIVE COMPACTION.
3. BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE SSPWC. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION.
4. PLANS SHALL INCLUDE A DETAIL FOR SUBGRADE STABILIZATION INCLUDING BACKFILL MATERIAL, STRUCTURAL GEOTEXTILE FILTER FABRIC AND MODIFIED CUTOFF COLLARS WHEN POTENTIAL FOR UNSTABLE SUBGRADES EXIST, SUBJECT TO THE APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
5. FOR TRENCHES IN ROADWAY SECTION, SEE PAVEMENT PATCH DETAIL (DWG. No. C-5.1.6).
6. FOR THE PURPOSE OF PAYMENT; EXCAVATION AND BACKFILL QUANTITIES ARE BASED ON THESE STANDARD DRAWINGS, AND NO ADDITIONAL COMPENSATION WILL BE MADE. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY, BUT THERE WILL BE NO ADDITIONAL PAYMENT. ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
7. PLACE WARNING TAPE 1 FOOT ABOVE ALL BURIED PIPES AND CONDUITS.
8. (△1) TRACER WIRE SHALL BE 12 GAUGE (MINIMUM THICKNESS) INSULATED SOLID COPPER WIRE. INSULATION SHALL BE 30 MIL HDPE. PLANS SHALL SPECIFY WIRE STRENGTH AND INSULATION THICKNESS FOR BORING APPLICATIONS. SPLICES SHALL BE CONNECTED BY WIRE NUTS, SEALED WITH AQUA SEAL OR SILICON FILLED, AND DOUBLE WRAPPED WITH U/L LISTED ELECTRICAL TAPE. TRACER WIRE COLOR SHALL BE, BLUE FOR WATER, PURPLE FOR RECLAIMED WATER, GREEN FOR SEWER AND YELLOW FOR ELECTRICAL OR FIBER OPTIC.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTE 8	9/17	TRENCH EXCAVATION AND BACKFILL	DRAWING NO. C-1.2.1 (305)
APPROVED BY: [signature]		9/17		DATE SEP 2017

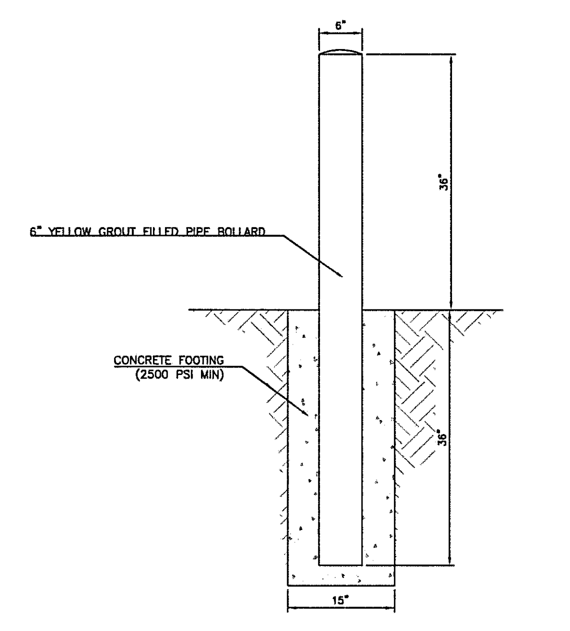


TYPICAL SECTION
NTS

NOTES:

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY PUBLIC WORKS
2. (△1) ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS C-5.1.1, AND, C-5.3.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

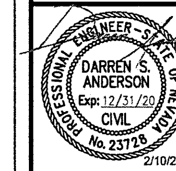
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
△1	NOTE 2	9/17	P.C.C. RETAINING CURB	DRAWING NO. C-5.3.10
APPROVED BY: [signature]		9/17		DATE SEP 2017



PIPE BOLLARD DETAIL
SCALE: 1" = 1'

DESIGNED BY: DA
DRAWN BY: JF
CHECKED BY: DA
DWG NO.:
SCALE (HORIZ): N/A
SCALE (VERT): N/A
PLOT DATE: 2020JAN07

CARSON CITY PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112



2/10/2020

REV	DATE	DESCRIPTION	BY	APP'D

CARSON CITY PRODUCTION WELLS
PERMANENT EMERGENCY GENERATORS
WELL 41 PROJECT
PROJECT No. P350518078
GENERAL NOTES AND DETAILS

SHEET C3 OF 8

BID SET PLANS

CCPW Well Generators

Various Locations
Carson City, Nevada

STANDARD SPECIFICATIONS

CONCRETE

1. All concrete shall have:
   (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO)
   (b) a maximum slump of 5" at point of placement.
   (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations.
   (d) a normal dry-weight density (UNO).
2. Special inspection is NOT required as the foundations have been designed with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2.1, and 2.3, unless explicitly specified herein, on the structural plans, or by the Building Department. As a minimum, special inspection is always required on:
   (a) structural slabs, flat plates
   (b) walls, columns, beams
   (c) piles, caissons
   (d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application

   When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require the special inspection requirements [Section 1704.1 and 1704.4]. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
3. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency and at the expense of the contractor, such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1704.4. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of theBuilding Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner.
4. The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
5. All concrete work shall conform with the Governing Building Code, Chapter 19.
6. All cement shall be Portland Cement Type I or II and shall conform to ASTM C 150.
7. All aggregates shall conform to ASTM C33. Maximum aggregate sizes:
   (a) Footings: 1-1/2"
   (b) All other work: 3/4"
8. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be:
   (a) Permanently exposed to earth or weather
      i. Cast against earth: 3"
      ii. Cast against forms: 2"
   (b) Not exposed to earth or weather
      i. Slabs, walls, joists: 3/4"
      ii. Beams, girders, columns: 1-1/2"
9. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered.
10. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for location of embedded items.
11. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly air and water cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted, construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall be located such that the area does not exceed 400 sq. feet.
12. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete.
13. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe sections.
14. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
15. Remove form work in accordance with the following schedule
   (a) Forms at slab edge: 1 day
   (b) Side forms at footings: 2 days
   (c) All other vertical surfaces: 7 days
   (d) Beams, columns, girders: 15 days
   (e) Elevated slabs: 28 days

   Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results.
16. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall be used to consolidate the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms.
17. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement.
18. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards.
19. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior toplacement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
20. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.

REINFORCEMENT

1. Reinforcing steel shall be to deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
2. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All weld wire fabric (WWF) shall conform to ASTM A185.
3. Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of reinforcement shall be subject to special inspection.
4. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all reinforcing steel in their true position and prevent displacement during concrete placement.
5. Fabrication, placement and installation of reinforcing steel shall conform to:
   (a) Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice
   (b) the Governing Building Code, Section 1907
6. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
7. Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of Standard Practice.
8. Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement two (2) modules minimum (UNO). All splices are to be staggered.

FOUNDATIONS

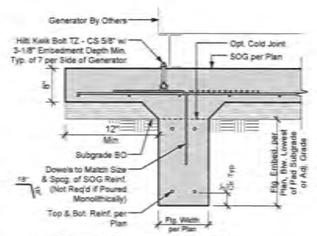
1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used in calculations.
2. Soils values per Table 1806.2 of the latest edition of the Governing Building Code.
3. Unexpected Soil Conditions: Allowable values and subsequent foundation designs are based on soil conditions which are shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the Engineer immediately.
4. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed under the supervision of the building official.
5. Excavate to required depths and dimensions (as indicated in the drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation.
6. Foundations shall be poured in neat excavations.
7. Excavate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official and/or soils engineer.
8. All foundations shall be inspected and approved by the appropriate building official and/or a representative of the soils engineer prior to forming and placement of reinforcing or concrete.
9. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
10. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
11. The sides and bottoms of dry excavations must be moistened just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum working conditions.
12. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

STATEMENT OF SPECIAL INSPECTIONS, 2018 IBC

1. This Statement of Special Inspection is submitted in fulfillment of the requirements of the Governing Building Code, section 1704 and 1705.
2. Special Inspections and Testings will be preformed in accordance with the approved plans and specifications, this statement and the Governing Building Code, Section 1704 , 1705 , 1707 , and 1708.
3. The schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
4. Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with the Governing Building Code Section 1704.2.4.
5. A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
   (a) Required special inspections.
   (b) Correction of discrepancies noted in inspections.
6. The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in the Governing Building Code, Section 1704.2.
7. 1704.4 Contractor responsibility. Each contractor responsible for the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in The statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

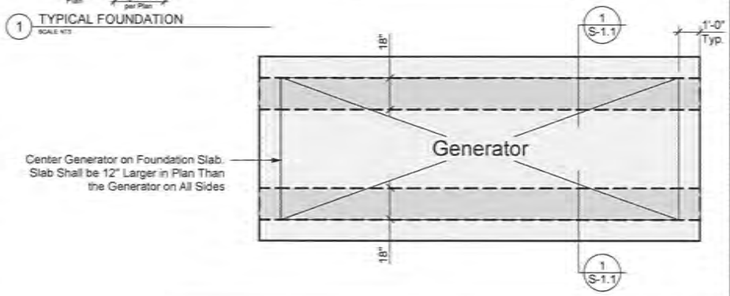
Verification & Inspection	C	P	Notes
1705.3 - Concrete			
4. Inspect anchors post-installed in hardened concrete			
a. Adhesive anchors[1] installed in horizontally or upwardly inclinded orientations to resist sustained tension	X		
b. Mechanical anchors[2] and adhesive anchors[1] not defined in 4.a		X	

FOOTNOTES:
1. Prior to epoxy placement, it must be verified that the hole is clean, dry, and free of loose debris.
2. Periodic inspection shall take place such that the installation of a minimum of two (2) anchors per each shear wall are observed.



1 TYPICAL FOUNDATION
SCALE: NTS

Generator Foundation Slab Plan



GENERAL FOUNDATION NOTES

Foundations per Governing Building Code, Table 1806.2
At the request of the client (or client's agent), Ashley & Vance Engineering has designed the foundations in conformance with Table 1806.2. If the building official determines that expansive soils are present, or other geologic issues of concern, then they may require that special provisions be made to the foundation design to safeguard against damage due to the expansiveness or due to other geologic issues. If this becomes the situation, all foundation construction must be halted and the client, at their own expense, shall: (a) obtain a soils report prepared by a Soils Engineer licensed in the state of the project; (b) commission Ashley & Vance Engineering to revise the foundation plans and details, and framing plans if necessary, to reflect the recommendations of the soils report; (c) submit the revised plans to the Building Department for approval.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

ABBREVIATIONS

AB	Anchor Bolt	Mas.	Masonry
A&B	Above and Below	Max.	Maximum
Abv.	Above	MB	Machine Bolt
Adn.	Addition (al)	Mfr.	Manufacture(r)
Adj.	Adjacent, Adjustable	Min.	Minimum, Minute
Alt.	Alternate (ive)	Mod.	Modif(y), (ication)
Appd.	Approved	Mtl.	Metal
Arch.	Architect(ural)	(N)	New
Avg.	Average	N/A	Not Applicable
Bdry.	Boundary	Nat.	Natural
Bldg.	Building	NTS	Not to Scale
Bm.	Beam	o/	Over
B-O	Bottom of	oc	On Center
BO	By Others	OD	Outside Diameter
Bot.	Bottom	Opng.	Opening
Brg.	Bearing	Opp.	Opposite
Btwn.	Between	Opt.	Optional
BW	Both Ways	Para.	Parallel
Cant.	Cantilever(ed)	PCF	Lbs per Cubic Ft.
CIP	Cast in Place	Pen.	Penetrate, (tion)
CJ	Ceiling Joist	Perf.	Perforated
CJP	Complete Joint Penetration	Perim.	Perimeter
		Perp.	Perpendicular
CL	Center Line	Pl.	Panel Index
Clg.	Ceiling	Prep.	Prepare, (tion)
Com.	Common	Press.	Pressure
Comp.	Component	Proj.	Project
Conc.	Concrete	Prop.	Property
Conn.	Connection	PSF	Lbs per Square Ft.
Const.	Construction	PSI	Lbs per Square In.
Cont.	Continue (ous)	R	Radius
Ctr.	Center	Rec(s).	Recommendation(s)
d	Penny	Rect.	Rectangular
Dbl.	Double	Ref.	Reference
Defl.	Deflection	Reinf.	Reinforce(d), (ment), (ing)
Depc.	Depress(ed)		
Dia.	Diameter	Req(d)	Require(d)
Diaph.	Diaphragm	Reqs.	Requirements
Dif.	Different	Ret.	Retain(ing)
Dim.	Dimension	Sched.	Schedule
Dist.	Distance	Sgl.	Single
DL	Dead Load	Shtg.	Sheathing
Dwg.	Drawing	Sim.	Similar
(E)	Existing	SIP	Str. Insulated Panel
Ea.	Each	SM	Sheet Metal
EF	Each Face	SMS	Sheet Metal Screw
EFP	Equivalent Fluid Pressure	SOG	Slab on Grade
		Spec.	Specif(ied), (cations)
Elev.	Elevator, Elevation	Std.	Standard
Embed.	Embed(ed), (ment)	Sym.	Symmet(ry), (rical)
Engr.	Engineer	T&B	Top and Bottom
EOR	Engineer of Record	Temp.	Temporary
Eq.	Equal, Equivalent	Thk.	Thick(ness)
EW	Each Way	Thru	Through
Exp.	Expand, Expansion	TOC	Top of Concrete
Ext.	Exterior	TOG	Top of Grade
Fdn.	Foundation	TOM	Top of Masonry
FOC	Face of Concrete	TOS	Top of Steel
Frmg.	Framing	TOW	Top of Wall
Ft.	Foot, Feet	TRU	To Remain Unchanged
Ftg.	Footing		
GC	General Contractor	Trmr	Trimmer Stud
Ht.	Height	Typ.	Typical
In.	Inch(es)	UNO	Unless Noted Otherwise
Insp.	Inspect(ion)		
K	Kips (1,000 pounds)	w/	With
Lb(s).	Pound(s)	w/in	Within
Loc.	Location	w/o	Without

PROJECT INFORMATION

CLIENT:
Carson City Public Works Department
3505 Butti Way
Carson City, NV 89701

DESIGNER:
Carson City Public Works Department
3505 Butti Way
Carson City, NV 89701
(775) 887-2355

DESIGN PARAMETERS

GENERAL PARAMETERS

Building Code	2018 IBC *

SOILS VALUES (Table 1806.2)

Bearing Pressure	1500 psf
Lateral Passive EFP	130 pcf
At-Rest EFP	80 pcf
Active EFP	40 pcf

WIND DESIGN BASIS

Ultimate Wind Speed, V_{ULT}	130 mph
Nominal Wind Speed, V_{ASD}	101 mph
Risk Category	II
Exposure	C
Importance Factor, I_w	1.00

SEISMIC DESIGN BASIS

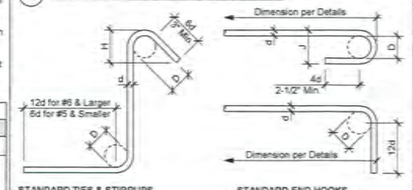
Seismic Design Category	E
Site Class	D
Seismic Factors	
S_{DS} / S_1	2.406 / 0.903
S_{DS} / S_{D1}	1.604 / 0.903
Risk Category	II
Importance Factor, I_e	1.00
Design Base Shear	V = 0.8084W
Analysis Procedure:	ASCE 7-10, 13.3

* The 2018 International Building Code (IBC), is the governing code in the State of Nevada.

SHEET INDEX

STANDARD DETAILS

1 TYPICAL REINFORCING BAR BENDS



STANDARD TIES & STIRRUPS

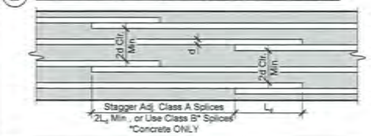
Bar Size	D	H (Approx.)
#3	1-1/2"	3"
#4	2"	3"
#5	2-1/2"	3-3/4"
#6	4-1/2"	4-1/2"
#7	5-1/4"	5-1/4"
#8	6"	6"

STANDARD END HOOKS

Bar Size	D	J
#3	2-1/4"	3"
#4	3"	4"
#5	3-3/4"	5"
#6	4-1/2"	6"
#7	5-1/4"	7"
#8	6"	8"

Note:
All Bar Bend Diameters & End Lengths Must Conform to the CRSI Manual of Standard Practice

2 STD. DEVELOPMENT LENGTHS & LAP SPLICES



*Concrete ONLY

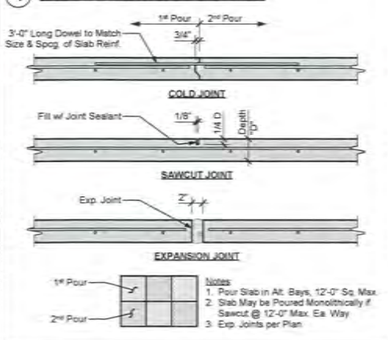
CONCRETE

Bar Size	Length of Lap, L_d Class A	Class B	Embed. of Hook, L_{dh}
#3	16"	21"	7"
#4	22"	28"	9"
#5	27"	35"	11"
#6	32"	42"	14"
#7	38"	49"	16"
#8	43"	56"	18"

MASONRY

Bar Size	Length of Lap, L_d	Embed. of Hook, L_{dh}
#3	15"	5"
#4	26"	7"
#5	40"	9"
#6	74"	10"
#7	101"	12"
#8	131"	13"

4 TYPICAL CONCRETE SLAB JOINTS



Notes:
1. Pour Slab in Alt. Bays, 12'-0" Sq. Max.
2. Slab May be Poured Monolithically if Sawcut @ 12'-0" Max. Ea. Way
3. Exp. Joints per Plan

Ashley & Vance ENGINEERING, INC.
7530 Longley Lane, Suite 105
Reno, NV 89511
(775) 825-4945
www.ashleyvance.com
CIVIL • STRUCTURAL

Engineer of Record:

CCPW Well Generators
Various Locations
Carson City, Nevada

Revision:

Proj. Engr.:	M. Schiavano Phone Ext.: 182
Proj. Mngr.:	J. Denio Phone Ext.:
Date:	13 Mar. 2019 Scale: NTS
A&V Job No.:	19092

STRUCTURAL SPECIFICATIONS, PLANS, AND DETAILS

S-1.1

DO NOT SCALE THESE DRAWINGS. Refer to dimensioned plans for all dimensions.

DRAWING SCHEDULE

SHEET	DESCRIPTION	100% FINAL DESIGN 06 FEBRUARY 2020
E1	ELECTRICAL LEGEND & DRAWING SCHEDULE	●
E2	SHEET SPECIFICATIONS	●
E3	ELECTRICAL ONELINE DIAGRAMS	●
E4	ELECTRICAL SITE PLAN	●
	TOTAL SHEETS IN ISSUE:	4

ELECTRICAL LEGEND

- PANELBOARD: SURFACE MOUNTED
- PANELBOARD: FLUSH MOUNTED
- SWITCHBOARD OR DISTRIBUTION PANEL
- TRANSFORMER
- PULLBOX / VAULT
- MOTOR STARTER
- COMBINATION MOTOR STARTER
- COMBINATION MOTOR STARTER PROVIDED BY OTHERS
- DISCONNECT SWITCH - FUSIBLE (FUSED PER EQUIP. NAMEPLATE)
- DISCONNECT SWITCH - NON-FUSIBLE
- DISCONNECT SWITCH PROVIDED BY OTHERS
- VARIABLE FREQUENCY DRIVE
- VARIABLE FREQUENCY DRIVE PROVIDED BY OTHERS
- ENCLOSED CIRCUIT BREAKER
- GROUND ROD
- SHUNT TRIP STATION OR EMERGENCY PUSHBUTTON
- REMOTE METER

- SINGLE RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- DUPLEX RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- DUPLEX RECEPTACLE: HALF SWITCHED
- DUPLEX RECEPTACLE: FLOOR MOUNTED
- QUAD RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- QUAD RECEPTACLE: FLOOR MOUNTED
- ISOLATED GROUND TYPE RECEPTACLE (ORANGE TRIANGLE) - 20A, 125V, NEMA 5-20IG, +18" AFF (UNO)
- DUPLEX RECEPTACLE GFI TYPE - 20A, 125V, NEMA 5-20 GFI +18" AFF (UNO)
- DUPLEX RECEPTACLE: ABOVE COUNTER (VERIFY HEIGHT)
- SPECIAL PURPOSE RECEPT.; SEE DWGS FOR NEMA CONFIG.
- DUPLEX RECEPTACLE: CEILING MOUNTED
- MULTI-OUTLET ASSEMBLY; SPACING PER DWGS

- DATA / VOICE OUTLET; 18" AFF (UNO) - 1 VOICE, 1 DATA JACK, 2 BLANKS
- DATA / VOICE OUTLET; FLOOR MOUNTED
- DATA / VOICE OUTLET; ABOVE COUNTER (VERIFY HEIGHT)
- MULTI-OUTLET ASSEMBLY; SPACING PER DWGS
- TELEPHONE OUTLET: 18" AFF (UNO)
- DATA OUTLET: 18" AFF (UNO)
- SPEAKER
- TELEVISION OUTLET: 18" AFF (UNO)
- TELEPHONE TERMINAL BOARD (TTB)
- VOLUME CONTROL
- GROUNDING BAR

- GROUND FAULT INTERRUPTER DEVICE
- METERING DEVICE
- REMOTE METER
- SHUNT TRIP DEVICE
- TRANSFORMER
- CURRENT TRANSFORMER
- GENERATOR
- MOTOR - # INDICATES HP
- INTERRUPTER SWITCH
- GROUND FAULT RELAY W/ CT OR SENSOR
- FUSE
- CIRCUIT BREAKER
- DRAWOUT CIRCUIT BREAKER
- TRANSFER SWITCH (A=AUTOMATIC, M=MANUAL) # FOR POLES 2, 3 OR 4
- SURGE PROTECTION DEVICE

- NORMALLY OPEN (NO) CONTACT
- NORMALLY CLOSED (NC) CONTACT
- COIL - VOLTAGE PER CONTROL DIAGRAMS
- PILOT LIGHT (LED) PUSH-TO-TEST, LETTER INDICATES COLOR (R=RED, G=GREEN, A=AMBER, Y=YELLOW)
- PILOT LIGHT (LED) NON PUSH-TO-TEST
- THERMAL OVERLOAD
- MAGNETIC OVERLOAD
- PUSH BUTTON NORMALLY OPEN (NO)
- PUSH BUTTON NORMALLY CLOSED (NC)
- HAND-OFF-AUTO (H0A) SELECTOR SWITCH
- LIMIT SWITCH NORMALLY OPEN (NO)
- LIMIT SWITCH NORMALLY CLOSED (NC)
- PUSH BUTTON ILLUMINATED (LED)

- S — SINGLE POLE SWITCH 48" AFF (UNO)
- S_3 — THREE WAY SWITCH 48" AFF (UNO)
- S_4 — FOUR WAY SWITCH 48" AFF (UNO)
- S_K — KEY OPERATED SWITCH 48" AFF (UNO)
- S_L — SWITCH WITH LIGHTED HANDLE
- S_M — MANUAL MOTOR STARTER
- S_P — SWITCH WITH PILOT LIGHT 48" AFF (UNO)
- S_T — TIME WALL SWITCH 48" AFF (UNO)
- D — DIMMER OPERATED SWITCH 48" AFF (UNO)
- OCCUPANCY SENSOR - WALL MOUNTED 48" AFF (UNO)
- OS = 360°, OS = 180°, OS = 90° — OCCUPANCY SENSOR - CEILING MOUNTED. ARROWS INDICATE COVERAGE, DIRECTION & PATTERN. PROVIDE WITH POWER PACK PER MFG REQUIREMENTS.
- CONTROL STATION
- CONTACTOR OR RELAY
- PHOTOELECTRIC CELL (ON ROOF FACING NORTH UNO)
- TIMECLOCK

- LIGHTING FIXTURE - LOWERCASE LETTER DENOTES SWITCHING (a = CENTER LAMP, b = OUTER LAMPS)
- WALL MOUNTED FIXTURE
- RECESSED DOWNLIGHT
- SURFACE LUMINAIRE
- POLE MOUNTED LIGHT (# OF HEADS INDICATED ON DRAWING)
- FLUORESCENT STRIP FIXTURE
- BOLLARD
- RECESSED DOWNLIGHT (WALL WASH)
- TRACK LIGHTING
- EMERGENCY LIGHTING UNIT
- EXIT SIGN FIXTURE - SHADED AREA DENOTES LIGHTED FACE - ARROWS DENOTE DIRECTION
- EMERGENCY FIXTURE

- THERMOSTAT (PROVIDED BY MECH. CONTRACTOR UNO)
- JUNCTION BOX (SIZE AS REQUIRED UNO)
- SHEET NOTE DESIGNATION
- FI — FIXTURE DESIGNATION, FI=TYPE (SEE FIXTURE SCH.)
- REVISION DELTA: NUMBER REPRESENTS REVISION
- 1255 — FEEDER DESIGNATION
- AHU 2 — EQUIPMENT CONNECTION

- TICS = NO. OF #12 WIRES (UNO) IF MORE THAN TWO WITHIN RACEWAY. GROUNDING CONDUCTOR (NOT SHOWN) ALWAYS REQUIRED.
  - ISOLATED GROUNDING CONDUCTOR
  - NEUTRAL CONDUCTOR
  - PHASE CONDUCTOR(S)
- BRANCH CIRCUIT (WHEN TIC MARKS ARE NOT SHOWN) = (1) PHASE, (1) NEUTRAL AND (1) GROUNDING CONDUCTOR
- HOMERUN TO PANELBOARD OR DEVICE
- HA-(1,3,5,3N)6 — HOMERUN CIRCUIT DESIGNATION
  - GROUNDING CONDUCTOR
  - NEUTRAL CONDUCTOR (N=1, 2N=2 NEUTRALS, 3N=3 NEUTRALS)
  - PHASE CONDUCTOR(S)
  - PANELBOARD DESIGNATION
- HA-(1,3,5)6 — HOMERUN CIRCUIT DESIGNATION (3 PHASE CIRCUIT SHOWN)
  - GROUNDING CONDUCTOR
  - PHASE CONDUCTOR(S)
  - PANELBOARD DESIGNATION

- CONDUIT/RACEWAY IN WALL OR ABOVE CEILING
- CONDUIT/RACEWAY BELOW GRADE OR BELOW FLOOR
- CONDUIT/RACEWAY UP
- CONDUIT/RACEWAY DOWN
- BREAK OR RUN CONTINUES
- —OH— OVERHEAD SERVICE
- —P— PRIMARY
- —S— SECONDARY
- —C— COMMUNICATIONS OR SIGNAL
- —T— TELEPHONE
- —TV— TELEVISION
- — • — LOW VOLTAGE AND/OR CONTROL WIRING
- —E—E— EMERGENCY CIRCUIT
- CONDUIT/RACEWAY STUB OUT; MARK AND CAP (SITE)
- CONDUIT/RACEWAY SLEEVE

20	SINGLE POLE CIRCUIT BREAKER	L	= LIGHTING
20/2	TWO POLE CIRCUIT BREAKER	R	= RECEPTACLES
20/3	THREE POLE CIRCUIT BREAKER	E	= EQUIPMENT
20A	ARC FAULT CIRCUIT BREAKER	M	= MOTOR
20C	CONTROLLABLE CIRCUIT BREAKER	MI	= LARGEST MOTOR
20G	GFI CIRCUIT BREAKER	K	= KITCHEN EQUIP
		H	= ELECTRIC HEAT

A	AMPS
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMP INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BKR	BREAKER
C	CONDUIT/RACEWAY
CEC	CALIFORNIA ENERGY COMMISSION
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT/RACEWAY ONLY
CT	CURRENT TRANSFORMER
CU	COPPER
DB	DISTRIBUTION BOARD
DDC	DIRECT DIGITAL CONTROLLER
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DWG	DRAWING
(E)	EXISTING TO REMAIN
ELEC	ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
(F)	FUTURE
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METAL CONDUIT (STEEL)
FPEN	FUSE PER EQUIP. NAMEPLATE
GFI	GROUND FAULT INTERRUPT
GFR	GROUND FAULT RELAY
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO SWITCH
HP	HORSEPOWER
HSKP	HOUSEKEEPING
IMC	INTERMEDIATE METAL CONDUIT
J-BOX	JUNCTION BOX
K	kcmil (500K = 500 kcmil)
KVA	KILOVOLT AMPS
KW	KILOWATT
LTG	LIGHTING
IG	ISOLATED GROUND
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCULAR MILS
MFG	MANUFACTURER
MLO	MAIN LUGS ONLY
MS	MOTOR STARTER
MSB	MAIN SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHTLIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NVE	NV ENERGY
P	POLE
PH/Φ	PHASE
PV	PHOTOVOLTAIC
PNL	PANEL
PTC	PV USA TEST CONDITIONS
PWR	POWER
(R)	RELOCATED
RAC	RIGID ALUMINUM CONDUIT
RFC	RIGID FIBERGLASS CONDUIT
RSC	RIGID STEEL CONDUIT
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
STC	STANDARD TEST CONDITIONS
SW	SWITCH
TE	TELECOM
TTB	TELEPHONE TERMINATION BOARD
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UNSW	UNSWITCHED
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WP	WEATHER PROOF
(X)	EXISTING TO BE REMOVED
XFMR OR XF	TRANSFORMER

NOTE: THIS IS A MASTER SYMBOL LIST. IT MAY BE THAT NOT ALL SYMBOLS SHOWN ARE USED WITHIN THIS SET OF PLANS. HEIGHTS GIVEN ARE TO CENTER LINE OF DEVICE.

DESIGNED BY: DGR/DSA
DRAWN BY: BD/DGR
CHECKED BY: DSA
DWG NO: 19033 E1 Legend.dwg
SCALE (HORIZ): N/A
SCALE (VERT): N/A
PLOT DATE: 2/6/20

CARSON CITY
PUBLIC WORKS DEPARTMENT
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JOSEPH E. GANSER — PROFESSIONAL ENGINEER - STATE OF NEVADA — No.21012 — ELECTRICAL — EXP. 06/30/21

BY	APP'D	REV.	DATE	DESCRIPTION

CARSON CITY PRODUCTION WELLS #24
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT NO. 9.1811

ELECTRICAL LEGEND & DRAWING SCHEDULE

SHEET E1 OF *

SECTION 260000 ELECTRICAL SPECIFICATIONS

ITEM | DESCRIPTION

PART 1 - GENERAL

1.1 SUMMARY

- THE WORK UNDER THIS DIVISION SHALL CONSIST OF ALL LABOR, MATERIALS, EQUIPMENT, SERVICES AND RELATED ACCESSORIES, ETC. NECESSARY AND REQUIRED TO COMPLETE ALL WORK AS SHOWN OR INFERRED ON THE DRAWINGS AND IN THE SPECIFICATIONS (CONTRACT DOCUMENTS).
- PROVIDE FIXED ELECTRICAL EQUIPMENT, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
- PROVIDE EQUIPMENT AND/OR WIRING NORMALLY FURNISHED OR REQUIRED FOR COMPLETE ELECTRICAL SYSTEMS BUT NOT SPECIFICALLY SPECIFIED ON THE DRAWINGS AND/OR IN SPECIFICATIONS, AS THOUGH SPECIFIED BY BOTH.
- ALL EQUIPMENT AND WIRING SHALL BE NEW, EXCEPT WHERE SPECIFICALLY SHOWN OR SPECIFIED OTHERWISE.

1.2 RELATED WORK SPECIFIED ELSEWHERE

COORDINATION: THE CIVIL, ARCHITECTURAL, MECHANICAL, KITCHEN AND INTERIOR DRAWINGS CONTAIN DETAIL DESCRIPTIONS, CIRCUITING AND CONNECTION REQUIREMENTS WHICH ARE PART OF DIVISION 16 RESPONSIBILITIES. ELECTRICAL CONTRACTOR SHOULD NOT SUBMIT BIDS ON THIS PROJECT BEFORE REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS AND ADDENDA.

1.3 ADOPTED CODES

- INTERNATIONAL BUILDING CODE (IBC) PUBLISHED BY THE INTERNATIONAL CODE COUNCIL (ICC).
- NATIONAL ELECTRICAL CODE (NEC) PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
- INTERNATIONAL FIRE CODE (IFC) PUBLISHED BY THE INTERNATIONAL CODE COUNCIL.
- NATIONAL FIRE CODES (NFPA STANDARDS) PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AS REFERENCED IN THE 2006 INTERNATIONAL FIRE CODE.
- INTERNATIONAL ENERGY CONSERVATION CODE (IECC) PUBLISHED BY THE INTERNATIONAL CODE COUNCIL. ASHRAE / IESNA STANDARD 90.1-2004 IS INCORPORATED BY REFERENCE.
- ALL APPLICABLE PROVISIONS OF THE NEVADA REVISED STATUTES (NRS) AND THE NEVADA ADMINISTRATIVE CODE (NAC), INCLUDING THOSE LISTED BELOW.
- THE MOST CURRENT REGULATIONS OF THE STATE FIRE MARSHAL, NEVADA DEPARTMENT OF PUBLIC SAFETY, CARSON CITY, NEVADA (NAC CHAPTER 477, STATE FIRE MARSHAL).
- THE MOST CURRENT EDITION OF THE AMERICANS WITH DISABILITIES ACT (ADA) PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE INCLUDING THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)

1.4 DEFINITIONS

PROVIDE	FURNISH, INSTALL, CONNECT AND TEST UNTIL COMPLETE
WIRE	FURNISH ALL NECESSARY WIRING, CONNECT AND TEST UNTIL COMPLETE
INSTALL	FURNISH, SET IN PLACE, WIRE AND TEST UNTIL COMPLETE
WORK	MATERIALS COMPLETELY INSTALLED, CONNECTED, AND TESTED UNTIL COMPLETE
EQUAL	ACCEPTABLE EQUAL AS DETERMINED BY THE ENGINEER

1.5 REQUIREMENTS OF REGULATORY AGENCIES

- OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK. COMPLY WITH ALL ORDINANCES PERTAINING TO WORK DESCRIBED HEREIN. PAY ALL EXPENSES ARISING FROM THE PROCUREMENT OF THESE CERTIFICATES AND INCLUDE IN THE BASE CONTRACT PRICE.
- INSTALL WORK UNDER THIS DIVISION PER DRAWINGS, SPECIFICATIONS, LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, (NFPA-70) INCLUDING LOCAL AMENDMENTS AND INTERPRETATIONS, LOCAL ADOPTED BUILDING CODES, AND ANY SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK WITHIN COMPLETE INSTALLATION. IN EVENT OF CONFLICT, INSTALL WORK PER MOST STRINGENT CODE REQUIREMENTS DETERMINED BY ENGINEER. THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.
- ALL MATERIALS, PRODUCTS, DEVICES, FIXTURES, FORMS OR TYPES OF CONSTRUCTION INCLUDED IN THIS PROJECT SHALL MEET OR EXCEED THE PUBLISHED REQUIREMENTS OF NATIONAL ELECTRICAL CODE (NEC), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) AND NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS (NEMA). ALL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES (UL) LABEL OR EQUIVALENT FROM APPROVED INDEPENDENT TESTING LABORATORY.
- ARRANGE, PAY FEES FOR AND COMPLETE WORK TO PASS REQUIRED TESTS BY AGENCIES HAVING AUTHORITY OVER WORK. DELIVER TO ENGINEER COPIES OF THE CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES AND PROVIDE ORIGINAL COPY OF EACH CERTIFICATE TO OWNER.
- WHEN REQUIRED BY LAW OR REGULATIONS, THE GOVERNMENTAL AGENCY HAVING JURISDICTION FOR INSPECTIONS SHALL BE GIVEN REASONABLE NOTICE AND OPPORTUNITY TO INSPECT THE WORK. ANY WORK THAT IS ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE; AFTER IT HAS BEEN INSPECTED, THE CONTRACTOR SHALL RESTORE THE WORK TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.

1.6 DRAWINGS AND SPECIFICATIONS

- DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH. ANY DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DURING THE BIDDING PERIOD. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE TO THE CONTRACTOR BY REASON OF HIS FAILURE TO HAVE BROUGHT SAID DISCREPANCIES TO THE ATTENTION OF THE CONSULTANT DURING THE BIDDING PERIOD OR BY REASON OF ANY ERROR ON THE CONTRACTOR'S PART.
- DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. DRAWINGS SHOW GENERAL RUN OF CIRCUITS AND APPROXIMATE LOCATION OF EQUIPMENT. THE CONTRACTOR SHALL REVIEW DRAWINGS OF ALL TRADES TO ASSURE COORDINATION PRIOR TO PLACEMENT OF WORK. RIGHT IS RESERVED TO CHANGE LOCATION OF EQUIPMENT AND DEVICES, AND ROUTING OF CONDUITS WITHIN 10 FEET, WITHOUT EXTRA COST TO OWNER (PRIOR TO ROUGH-IN).
- USE DIMENSIONS IN FIGURES, SHOP DRAWINGS, ETC. AND ACTUAL SITE MEASUREMENTS IN PREFERENCE TO SCALED DIMENSIONS. DO NOT SCALE DRAWINGS FOR EXACT SIZES OR LOCATIONS - USE DIMENSIONED DETAILS OR ACTUAL FIELD CONDITIONS. VERIFY ITEM MOUNTING HEIGHTS AS REQUIRED BY PROJECT CONDITIONS PRIOR TO ROUGH-IN.
- THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS IN MATTERS OF DIMENSIONS. DISCREPANCIES BETWEEN DIFFERENT DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING FOR DETERMINATION.
- LAYOUT EQUIPMENT AS SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE. VERIFY ACCESS REQUIREMENTS FOR EQUIPMENT ACTUALLY FURNISHED AND ADJUST LAYOUT TO COMPLY WITH NEC 110. RIGHT IS RESERVED TO CHANGE LAYOUT WITHIN 10 FEET WITHOUT ADDITIONAL COST (PRIOR TO ROUGH-IN).
- THE CONTRACTOR IS RESPONSIBLE TO FIELD MEASURE AND CONFIRM THE MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, DOORWAYS, AND OTHER ARCHITECTURAL, MECHANICAL OR STRUCTURAL WORK. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.
- EXECUTION OF CONTRACT IS EVIDENCE THAT CONTRACTOR HAS EXAMINED ALL EXISTING CONDITIONS, DRAWINGS AND SPECIFICATIONS RELATED TO WORK, AND IS INFORMED AS TO EXTENT AND CHARACTER OF WORK. LATER CLAIMS FOR LABOR AND MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.
- ALL WORK CALLED FOR IN THIS SECTION OF THE PLANS AND SPECIFICATIONS SHALL BE PERFORMED UNDER THIS SECTION, REGARDLESS OF WHETHER SUCH WORK MAY ALSO HAVE BEEN CALLED FOR IN OTHER SECTION(S). DISCREPANCIES IN OR CONFLICTS AMONG THE VARIOUS PARTS OF THE CONTRACT DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF HIS OBLIGATION TO PERFORM.
- NO ATTEMPT HAS BEEN MADE TO ESTABLISH THE REQUIRED SECTIONS OR SPLITS OF EQUIPMENT RELATIVE TO THE SIZE OF ACCESS INTO THE SPACE, BUILDING, ETC. CONTRACTOR SHALL ESTABLISH ALL SAID SPLITS, SECTIONS, ETC. NECESSARY TO INSTALL EQUIPMENT COMPLETE WITHOUT UNDUE DISASSEMBLY OF EQUIPMENT OR DEMOLITION OF BUILDING PARTS AT SITE OF WORK.
- CHARGES FOR EXTRA WORK ARE NOT ALLOWED UNLESS WORK IS AUTHORIZED BY WRITTEN ORDER FROM THE OWNER'S REPRESENTATIVE APPROVING CHARGES FOR WORK.
- CHECK ALL DOOR SWINGS SO LIGHTING CONTROL DEVICES ARE NOT LOCATED BEHIND DOORS. RELOCATE DEVICES AS REQUIRED WITH THE CONSULTANT'S REVIEW.

1.7 COPYRIGHT

THESE PLANS, SPECIFICATIONS, AND ALL RELATED ADDENDA AND DOCUMENTS CONSTITUTE COPYRIGHT MATERIALS OF PK ELECTRICAL. ALL RIGHTS CONFERRED BY THE COPYRIGHT AND SIMILAR LAWS ARE RESERVED TO PK ELECTRICAL. THESE MATERIALS SHALL REMAIN THE SOLE PROPERTY OF PK ELECTRICAL.

1.8 SUBMITTALS

BEFORE ORDERING ANY EQUIPMENT, CONTRACTOR SHALL SUBMIT SIX COPIES OF FACTORY SHOP DRAWINGS FOR ALL LIGHTING FIXTURES, LIGHTING CONTROLS, SWITCHGEAR, PANELS, CIRCUIT BREAKERS, MOTOR CONTROLLERS, DISCONNECTS WIRING DEVICES, PLATES, RACEWAYS AND FITTINGS, ETC. PROPOSED FOR THIS PROJECT.

1.9 SUBSTITUTIONS

PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL RESPECTS. DETERMINATION OF EQUALITY RESTS SOLELY WITH ENGINEER. SUBSTITUTIONS MUST BE SUBMITTED A MINIMUM OF 10 WORKING DAYS PRIOR TO BID FOR CONSIDERATION. PROPOSED SUBSTITUTIONS PROVIDED LATER WILL NOT BE REVIEWED OR ALLOWED. BID SUBSTITUTED MATERIAL WILL ONLY BE ALLOWED IF ACCEPTED IN WRITING BY ENGINEER.

1.10 EXAMINATION OF SITE AND EXISTING CONDITIONS

BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.

1.11 EXISTING SWITCHGEAR

REUSE EXISTING SWITCHGEAR AND PANELS IN PLACE WHERE SO INDICATED. MODIFY AS REQUIRED TO ACCOMMODATE NEW WORK. PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSES AS REQUIRED. MATCH AIC RATINGS. REARRANGE EXISTING CIRCUITS WITHIN PANELS TO AGREE WITH NEW PANEL SCHEDULES. TRACE AND IDENTIFY ALL EXISTING CIRCUITS ON NEW RECORD PANEL SCHEDULES.

1.12 EXISTING PANELBOARDS

- RING OUT CIRCUITS IN EXISTING PANELS. WHERE ADDITIONAL CIRCUITS ARE NEEDED REUSE CIRCUITS AVAILABLE FOR REUSE. INSTALL NEW BREAKERS AS INDICATED ON DRAWINGS. MATCH AIC RATINGS.
- TAG UNUSED CIRCUITS AS SPARE.
- WHERE EXISTING CIRCUITS ARE INDICATED TO BE REUSED, USE SENSING MEASURING DEVICES TO VERIFY THAT CIRCUITS FEEDING PROJECT AREA ARE NOT IN USE OR OVERLOADED.
- REMOVE EXISTING WIRE NO LONGER IN USE FROM PANEL TO EQUIPMENT.
- PROVIDE NEW UPDATED TYPED DIRECTORIES.

PART 2 - PRODUCTS

2.1 MATERIALS

- ALL MATERIAL SHALL BE NEW, AND HAVE A UL LABEL WHERE AVAILABLE. IF UL LABEL IS NOT AVAILABLE, MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE NEMA, IEEE AND FEDERAL STANDARDS. USE UL LABELED COMPONENTS IN ASSEMBLIES THAT DO NOT HAVE OVERALL UL LABEL. ALL EQUIPMENT SHALL COMPLY WITH THE TERMS "LISTED AND LABELED" AS DEFINED IN THE NEC 70, ARTICLE 100. SUBMIT LETTER STATING COMPLIANCE WITH THESE REQUIREMENTS.
- UTILIZE ONE OF THE MANUFACTURERS LISTED TO FURNISH ALL OF THE MAJOR EQUIPMENT (I.E. PANELS, TRANSFORMERS, BUS DUCT, SWITCHGEAR, CIRCUIT BREAKERS, ETC.) REQUIRED FOR THIS PROJECT.
- ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). SERVICE EQUIPMENT SHALL BE FACTORY-ASSEMBLED COMMERCIAL-GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, WHITE UNLESS OTHERWISE NOTED, RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS.
- ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE TAMPER-PROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PADLOCKABLE.

2.2 DISTRIBUTION EQUIPMENT

DISTRIBUTION EQUIPMENT SHALL BE DEAD-FRONT, PANELBOARD OR SWITCHBOARD TYPE AS INDICATED, UL-LABELED AND ENCLOSED IN A NEMA HOUSING APPROPRIATE TO ITS LOCATION AND APPLICATION WITH HINGED WIREWAY COVERS. BUSSING, DEVICE FINGERS AND LUGS SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. AIC RATINGS SHOWN ON PLANS ARE MINIMUM RATINGS; CIRCUIT BREAKERS SHALL BE IN EXCESS OF THE AVAILABLE FAULT CURRENT. SERIES-RATING OF UPSTREAM AND DOWNSTREAM CIRCUIT BREAKERS TO ACHIEVE REQUIRED FAULT CURRENT RATINGS IS PROHIBITED UNLESS APPROVED BY ENGINEER IN WRITING.

2.3 PANELBOARDS

PANELS SHALL HAVE FLUSH MONO-FLAT TRIM, LOCKING DOOR-IN-DOOR HINGED COVERS AND BOLT-ON CIRCUIT BREAKERS. BUSSING SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: ONE 1" CONDUIT FOR EACH FOUR SPARE/SPACE CIRCUITS. PROVIDE ONE TYPED AND ONE SPARE PANEL SCHEDULE FOR OWNER'S USE. SCHEDULES SHALL BE TWO COLUMN TYPE WITH ODD CIRCUIT NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT.

2.4 CIRCUITING

ALL WIRING SHALL BE IN CONDUIT, CONCEALED EXCEPT WHERE NOTED. EMT WITH STEEL SET SCREW INSULATED-THROAT FITTINGS SHALL BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM-24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE AND CONCRETE SLAB TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. FMC MAY BE USED FOR FINAL CONNECTION TO LIGHTING FIXTURE FROM J-BOX. FIXTURE WHIPS MAY NOT EXCEED 6' IN LENGTH. METAL CLAD CABLE (TYPE MC) WILL BE ACCEPTABLE FOR SINGLE CIRCUIT BRANCH CIRCUITING, FLEXIBLE WHIPS FROM JUNCTION BOXES TO LIGHTING FIXTURES AND WITHIN CASEWORK. TYPE MC CABLE MAY NOT BE USED FOR HOMERUNS. ENT IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES, MOTORIZED AND VIBRATING EQUIPMENT WITH STEEL FLEX. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY. CONNECT PUMP MOTORS WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT.

2.5 WIRING

- WIRE SHALL BE COPPER UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG. WHERE ALUMINUM IS ALLOWED, WIRE SHALL BE TERMINATED IN AN INSULATED CU/AL RATED COMPRESSION TERMINAL FITTING (MAC-ADAPT OR EQUAL). INSULATION SHALL BE THW, THWN OR THHN.
- UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES, GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE WHITE (120V) OR GREY (277V) AND PHASE WIRES SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C) FOR A 120/208 VOLT SYSTEM AND BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C) FOR A 277/480 VOLT SYSTEM.

2.6 FUSES

FUSES SHALL BE SIZED PER ACTUAL NAMEPLATE OF EQUIPMENT SERVED. FUSES SHALL BE DUAL-ELEMENT, CURRENT-LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. FUSES SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

- CIRCUITS 601 TO 6000 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK TIME-DELAY FUSES KRP-C - UL CLASS L.
- CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK (600 VOLTS) - UL CLASS RK1.
- ALL DUAL-ELEMENT FUSES SHALL HAVE SEPARATE OVERLOAD AND SHORT-CIRCUIT ELEMENTS.
- PROVIDE SPARE FUSE CABINET AFTER THE COMPLETION OF THE PROJECT WITH ONE SET OF SPARE FUSES FOR EVERY SIZE USED.

2.7 WIRING DEVICES

WIRING DEVICES SHALL BE AS FOLLOWS:

- RECEPTACLES - 120V, 20A, NEMA 5-20R, SPECIFICATION GRADE, SIDE AND BACK WIRED WITH CLAMP TYPE TERMINALS, NYLON, WHITE, 2 POLE, 3 WIRE GROUNDING.
- SWITCHES - 120V/277V, 20A, WHITE, HEAVY DUTY, SILENT TYPE SPECIFICATIONS GRADE.
- DEVICE PLATE SHALL BE NYLON, WHITE COLOR WITH MATCHING SCREWS.
- RECEPTACLES IN WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED SUITABLE FOR WET LOCATIONS WHILE IN USE AND UL LISTED EQUAL TO TAY MAC SPECIFICATIONS GRADE.

PART 3 - EXECUTION

3.1 VISIT TO SITE

VISIT SITE, AND SURVEY EXISTING CONDITIONS AFFECTING WORK PRIOR TO BID. INCLUDE NECESSARY MATERIALS AND LABOR TO ACCOMPLISH THE ELECTRICAL WORK, INCLUDING RELOCATION OF EXISTING SERVICES AND UTILITIES ON BUILDING SITE IN BID. NO CONSIDERATION SHALL BE GIVEN TO FUTURE CLAIMS DUE TO EXISTING CONDITIONS. ANY DISCREPANCIES OR INTERFERENCES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

3.2 WORKMANSHIP

- ALL WORK PERFORMED SHALL BE FIRST CLASS WORK IN EVERY ASPECT. THE WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES, WHO SHALL AT ALL TIMES BE UNDER THE SUPERVISION OF COMPETENT PERSONS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH NECA'S "STANDARD OF INSTALLATION."
- IN ADDITION TO THE MATERIALS SPECIFIED ELSEWHERE, FURNISH AND INSTALL ALL OTHER MISCELLANEOUS ITEMS NECESSARY FOR THE COMPLETION OF THE WORK TO THE EXTENT THAT ALL SYSTEMS ARE COMPLETE AND OPERATIVE.
- ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN COOPERATION WITH THE WORK PERFORMED UNDER ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR THE PROJECT IN ORDER TO AVOID INTERFERENCE WITH OTHER WORK AND TO SECURE THE PROPER INSTALLATION OF ALL WORK. REFER THE DRAWINGS AND SPECIFICATIONS COVERING THE WORK TO BE PERFORMED UNDER ALL SECTIONS, SO THAT THE RELATION AND EXTENT OF THE WORK OF THIS SECTION WITH RESPECT TO THE WORK OF ALL OTHER SECTIONS IS UNDERSTOOD. GIVE RIGHT OF WAY TO RACEWAYS AND PIPING SYSTEMS INSTALLED AT A REQUIRED SLOPE.
- CONDUIT SYSTEMS MUST BE COMPLETE PRIOR TO INSTALLATION OF WIRING.

3.3 CHANGE ORDERS

- ADDITIONAL WORK MAY BE REQUIRED ON THE PROJECT WHICH IS OUTSIDE THE SCOPE OF THE CONTRACT. SUCH ADDITIONAL WORK WILL BE DESCRIBED IN SUPPLEMENTAL INSTRUCTIONS AND/OR CLARIFICATIONS, TO BE ESTIMATED AND PRICED BY THE CONTRACTOR, AND ACCEPTED BY THE OWNER, PRIOR TO COMMENCING WORK. PROPOSALS SHALL INCLUDE A LIST OF QUANTITIES OF ALL MATERIAL BEING USED WITH UNIT COSTS BROKEN DOWN INTO MATERIAL AND LABOR COSTS PER UNIT. CONTRACTOR SHALL PROVIDE ACTUAL EQUIPMENT QUOTES WHEN REQUESTED BY ENGINEER.
- MATERIAL COSTS AND LABOR UNITS SHALL NOT EXCEED THE LATEST EDITION OF RS MEANS ELECTRICAL COST DATA.

3.4 GUARANTEE

- FURNISH THE OWNER A WRITTEN GUARANTEE, STATING THAT IF THE WORKMANSHIP AND/OR MATERIAL EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN (1) YEAR AFTER THE FINAL ACCEPTANCE BY THE OWNER, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED. SUBMIT WITH OPERATION AND MAINTENANCE MANUALS.
- OBTAIN FROM THE VARIOUS MANUFACTURERS OR VENDORS GUARANTEES OR WARRANTIES FOR THEIR PARTICULAR EQUIPMENT OR COMPONENTS, AND DELIVER THEM TO THE OWNER. ALL GUARANTEES AND WARRANTIES PROVIDED SHALL BE REFERENCED TO THIS PROJECT.
- IN EVENT THAT SYSTEMS ARE PLACED IN OPERATION IN SEVERAL PHASES AT THE OWNER'S REQUEST, GUARANTEE WILL BEGIN ON DATE EACH SYSTEM OR ITEM OF EQUIPMENT IS ACCEPTED FOR SERVICE BY THE OWNER. PROVIDE O&M MANUALS FOR ALL EQUIPMENT WHEN EQUIPMENT IS ACCEPTED FOR SERVICE BY THE OWNER.
- ALL GUARANTEES AND WARRANTIES SHALL INCLUDE LABOR AND MATERIAL AT THE SITE OF INSTALLATION FOR THE DURATION OF THE GUARANTEE PERIOD.

3.5 OBSERVATIONS OF WORK AND DEMONSTRATION OF OPERATION (ACCEPTANCE)

- AT ALL OBSERVATIONS OF WORK, OPEN PANEL COVERS, JUNCTION BOX COVERS, PULL BOX COVERS, DEVICE COVERS, AND OTHER EQUIPMENT WITH REMOVABLE PLATES FOR OBSERVATION AS REQUESTED BY AHJ OR ENGINEER. PROVIDE SUFFICIENT PERSONNEL TO EXPEDITE COVER REMOVAL AND REPLACEMENT.
- CONTRACTOR TO DEMONSTRATE OPERATION OF NEW EQUIPMENT AND/OR SYSTEMS TO SATISFACTION OF OWNER/ENGINEER. CONTRACTOR TO HAVE MANUFACTURER AVAILABLE FOR DEMONSTRATION OF EQUIPMENT AND/OR SYSTEMS WHERE REQUESTED BY OWNER/ENGINEER. FURNISH AFFIDAVIT SIGNED BY OWNER'S REPRESENTATIVE INDICATING THAT DEMONSTRATION OF OPERATION HAS BEEN PERFORMED.

3.6 COOPERATION

- CAREFULLY COORDINATE WORK WITH OTHER CONTRACTORS AND SUBCONTRACTORS. REFER CONFLICTS BETWEEN TRADES TO ENGINEER. PROVIDE NECESSARY INFORMATION TO OTHER TRADES FOR SUCH COORDINATION. SUCH INFORMATION SHALL INCLUDE SHOP DRAWINGS, PRODUCT DATA AND ALL OTHER REQUIRED DATA. PROVIDE A SYSTEM ERECTION/COORDINATION DRAWING SHOWING ELECTRICAL, HVAC, PLUMBING AND ARCHITECTURAL FOR INSTALLATION IN CONGESTED AREAS, WHEN REQUESTED.
- WHENEVER SUCH INFORMATION IS NOT PROVIDED IN A TIMELY MANNER OR WHENEVER SUCH INFORMATION IS INCORRECT, THIS CONTRACTOR SHALL BEAR ALL COSTS FOR PROVIDING OR CORRECTING AFFECTED WORK OF RELATED TRADES WITH NO CHANGE TO THE CONTRACT PRICE OR CONSTRUCTION SCHEDULE.
- WORK TO BE INSTALLED AS PROGRESS OF PROJECT WILL ALLOW. SCHEDULE OF WORK DETERMINED BY GENERAL CONTRACTOR, OWNER, AND/OR ARCHITECT/ENGINEER.

3.7 COORDINATION OF UTILITY SERVICES

- DRAWINGS INDICATE PROPOSED SERVICE LAYOUTS. THE CONTRACTOR SHALL PROVIDE ALL CONCRETE STRUCTURES, PULLBOXES, VAULTS, TRENCHING, RACEWAYS, PROTECTIVE BOLLARDS, ETC., AS REQUIRED PER NV ENERGY STANDARDS (ELECTRICAL UTILITY), AT&T (TELEPHONE COMPANY) AND CHARTER (CATV UTILITY) STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SUBMITTING PROJECT DRAWINGS, APPLICATION, AND EQUIPMENT SHOP DRAWINGS TO THE UTILITY. UTILITY FEES TO BE PAID BY PROJECT OWNER.

3.8 DELIVERY, STORAGE AND HANDLING

- DELIVER EQUIPMENT AND MATERIALS TO JOB SITE IN ORIGINAL, UNOPENED, LABELED CONTAINER. PRODUCTS SHALL BE PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS AND OTHER INFORMATION NEEDED FOR IDENTIFICATION. STORE TO PREVENT DAMAGE AND INJURY. STORE MATERIALS TO PREVENT CORRODING. STORE FINISHED MATERIALS AND EQUIPMENT TO PREVENT STAINING AND DISCOLORING. STORE MATERIALS AFFECTED BY CONDENSATION IN WARM DRY AREAS. PROVIDE HEATERS. CONTRACTOR SHALL VERIFY THE AVAILABILITY OF ON SITE STORAGE SPACE. IF NO ON SITE STORAGE SPACE IS AVAILABLE THEN THE CONTRACTOR SHALL COVER THE COST FOR OFF SITE STORAGE. MATERIALS STORED AT THE PROJECT SITE THAT BECOMES SOILED WITH CONSTRUCTION DIRT, CONCRETE, OR MOISTURE SHALL BE REMOVED FROM THE SITE AND REPLACED WITH NEW. DO NOT INSTALL SOILED MATERIAL.
- INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. CONFLICTS BETWEEN CONTRACT DOCUMENTS AND THESE RECOMMENDATIONS SHALL BE REFERRED TO ENGINEER FOR REMEDY.
- ELECTRICAL OR ELECTRONIC EQUIPMENT THAT HAS BEEN DAMAGED, EXPOSED TO WEATHER OR IS, IN THE OPINION OF THE ENGINEER OR ARCHITECT, OTHERWISE UNSUITABLE BECAUSE OF IMPROPER FABRICATION, STORAGE OR INSTALLATION SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR AT HIS EXPENSE.

3.9 ANCHORS

- PROVIDE ANCHORS FOR ALL EQUIPMENT, RACEWAYS, HANGERS, ETC. TO SAFELY SUPPORT WEIGHT OF ITEM INVOLVED PLUS 100% FOR DEAD LOADS. LIVE LOADS SHALL BE CONSIDERED IN ADDITION TO DEAD LOADS.
- ANCHORS TO CONSIST OF EXPANSION TYPE DEVICES SIMILAR TO "REDHEAD" OR LEAD EXPANSION ANCHORS. PLASTIC ANCHORS ARE NOT ACCEPTABLE.
- USE PRESET ANCHOR STEEL INSERTS IN CONCRETE SLABS. PROVIDE PRESET ANCHOR SIZE AND TYPE FOR ANTICIPATED OR SPECIFIED ROD/BOLT SIZE AND LIVE/DEAD LOAD.

3.10 HOUSEKEEPING PADS

FURNISH 2500 # CONCRETE PADS, 4" HIGH (INTERIOR LOCATIONS) OR 6" HIGH (EXTERIOR LOCATIONS) UNLESS OTHERWISE NOTED, FOR ALL FREESTANDING EQUIPMENT, I.E. SWITCHBOARDS, PANELS, CONTROL PANELS, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC. PADS SHALL HAVE 1" X 45° CHAMFERED EDGES, AND SHALL EXTEND 2" TO 4" BEYOND EQUIPMENT MOUNTINGS.

3.11 CLEANING AND PAINTING

- CLEAN EQUIPMENT FURNISHED IN THIS DIVISION AFTER COMPLETION OF WORK. CLEAN WIPE THE INTERIOR OF ALL CONDUIT, PULLBOXES, JUNCTION BOXES, OUTLET BOXES, AND PANELBOARD BACKBOXES SOILED WITH DIRT AND DEBRIS PRIOR TO INSTALLATION OF WIRING.

TOUCH-UP OR RE-PAINT DAMAGED PAINTED FINISHES AS DETERMINED BY THE ENGINEER.

3.12 RECORD DRAWINGS

- CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE-SET OF REVISED RECORD ELECTRICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM. ALSO INCLUDE THE FOLLOWING INFORMATION:
  - EXACT ROUTING OF ALL CONDUITS LARGER THAN ONE INCH.
  - EXACT LOCATION OF ALL SERVICE GROUNDING/ BONDING CONNECTIONS.
  - CONTRACTORS NAME, ADDRESS, AND TELEPHONE NUMBER.
- RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.

3.13 TESTING

PRIOR TO PLACING IN SERVICES, ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR OPENS, GROUNDS, AND PHASE ROTATION. THE MAIN SERVICE GROUND AND ALL LOCAL TRANSFORMER MADE GROUNDS SHALL BE MEGGER-TESTED. PROVIDE GFI TESTING FOR SERVICE SWITCHBOARD.

3.14 SHORT CIRCUIT AND PROTECTIVE DEVICE COORDINATION STUDY

COMPLETE SHORT CIRCUIT AND PROTECTIVE DEVICE COORDINATION STUDY TO MEET REQUIREMENTS OF NFPA 70, AT&T PRACTICE REO-30-01-29-ATP-01 AND AT&T PRACTICE REO-30-01-30-ATP-01.

- PREPARE STUDY PRIOR TO ORDERING DISTRIBUTION EQUIPMENT TO VERIFY EQUIPMENT RATINGS REQUIRED.
- PERFORM STUDY WITH AID OF COMPUTER SOFTWARE PROGRAM (LATEST VERSION OF EASYPOWER SUITE REQUIRED). PROVIDE OWNER WITH EASYPOWER MODEL.
- PROVIDE A HARD COPY SINGLE LINE IN A TUBE WITH A CD COPY OF THE EASYPOWER MODEL THAT SHALL BE MAGNETICALLY ATTACHED TO THE SIDE OF THE MSP.
- STUDY SHALL ENCOMPASS ALL PORTIONS OF ELECTRICAL DISTRIBUTION SYSTEM FROM NORMAL POWER SOURCE AND/OR STANDBY SOURCES UP TO AND INCLUDING BREAKERS IN SERVICE ENTRANCE SWITCHBOARD, MAIN BREAKER IN SUB-DISTRIBUTION PANELS, MAIN BREAKER IN EACH PANELBOARD.
- CALCULATE SHORT CIRCUIT INTERRUPTING AND, WHEN APPLICABLE, MOMENTARY DUTIES FOR ASSUMED 3-PHASE BOLTED FAULT SHORT CIRCUIT CURRENT AND PHASE TO GROUND FAULT SHORT CIRCUIT CURRENT AT EACH OF THE FOLLOWING:
- UTILITY SUPPLY BUS.
- AUTOMATIC TRANSFER SWITCH.
- ENGINE GENERATOR.
- LOW-VOLTAGE SWITCHGEAR.
- SWITCHBOARDS.
- MOTOR CONTROL CENTERS.
- DISTRIBUTION PANELBOARDS.
- BRANCH CIRCUIT PANELBOARDS.
- EACH OTHER SIGNIFICANT EQUIPMENT LOCATION THROUGHOUT SYSTEM.

3.15 ARC FLASH HAZARDS ANALYSIS STUDIES

COMPLETE ARC FLASH HAZARDS ANALYSIS STUDY TO MEET REQUIREMENTS OF NFPA 70E, AT&T PRACTICE REO-30-01-29-ATP-01 AND AT&T PRACTICE REO-30-01-30-ATP-01.

- PERFORM STUDY WITH AID OF COMPUTER SOFTWARE PROGRAM (LATEST VERSION OF EASYPOWER SUITE REQUIRED). PROVIDE OWNER WITH EASYPOWER MODEL.
- SHALL INCLUDE DETERMINING THE SHORT-CIRCUIT CURRENT AVAILABLE AT THE DESIGNATED POINT OF CONTACT AND INCLUDE PERFORMING THE FOLLOWING TO PROVIDE ADEQUATE PROTECTION:
- CALCULATE THE FLASH PROTECTION BOUNDARY.
- CALCULATE THE ARC-FLASH INCIDENT ENERGY.
- CONFIRM THE REQUIRED LABELING.
- CONFIRM THE REQUIRED PERSONAL PROTECTIVE EQUIPMENT WITH ARC RATING TO PROVIDE ADEQUATE PROTECTION FOR PERSONNEL WORKING ON OR NEAR-ENERGIZED CONDUCTORS OR COMPONENTS.
- PROVIDE UPDATED LABELS THROUGHOUT ENTIRE SYSTEM AS REQUIRED.

3.16 IDENTIFICATION

- PROVIDE ENGRAVED NAMEPLATES FOR ALL SWITCHBOARDS, PANELS, TRANSFORMERS, DISCONNECTS, MOTOR STARTERS, CONTACTORS, TIME SWITCHES AND CABINETS. NAMEPLATES SHALL BE WHITE LETTERS ON BLACK FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED FOR EMERGENCY EQUIPMENT. NAMEPLATES SHALL INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE:
  - DESIGNATION (I.E. PANEL A); FUNCTION (I.E. AIR HANDLER AH-1); VOLTAGE, PHASE, WIRE (I.E. 480 VOLT, 3 PHASE, 4W); FEEDER SIZE (I.E. 4-#4/0 THWN CU IN 2" C); SOURCE (I.E. SWITCHBOARDS MSB).
- JUNCTION, PULL AND CONNECTION BOXES: IDENTIFICATION OF SYSTEMS AND CIRCUITS SHALL INDICATE SYSTEM VOLTAGE AND CONTAINED CIRCUITS ON OUTSIDE OF BOX COVER. USE SELF-ADHESIVE MARKING TAPE LABELS AT EXPOSED LOCATIONS AND INDELIBLE BLACK MARKER AT CONCEALED BOXES. ALL FIRE ALARM BOXES SHALL HAVE COVERS PAINTED RED. ALL TEMPERATURE CONTROL BOXES SHALL HAVE COVERS PAINTED BLUE.
- BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED IN EACH JUNCTION BOX AND PULL BOX WITH WIRE MARKERS AS MANUFACTURED BY T&B, PANDUIT, 3M, OR IDEAL TO INDICATE PANEL/CIRCUIT NUMBER.
- JUNCTION BOX COVERS IN BRANCH CIRCUIT WIRING SHALL BE LABELED WITH PANEL AND CIRCUIT NUMBERS. JUNCTION BOX COVERS FOR SPECIAL SYSTEMS SHALL BE LABELED WITH SYSTEM NAME AND OTHER IDENTIFICATION AS DIRECTED; FOR EXAMPLE, "FIRE ALARM-ZONE 1". WHERE BOXES ARE INSTALLED FLUSH MOUNTED IN FINISHED AREAS OR SURFACE MOUNTED IN UNFINISHED AREAS, LABELING SHALL BE WITH ENGRAVED PLASTIC NAMEPLATE AS SPECIFIED HEREIN. WHERE BOXES ARE INSTALLED ABOVE ACCESSIBLE CEILINGS, LABELING MAY BE NEAT HAND WRITTEN LETTERING WITH INDELIBLE MARKER.
- DEVICE PLATES - SWITCHES AND RECEPTACLES: IDENTIFY THE PANELBOARD AND BRANCH CIRCUIT NUMBER FROM WHICH SERVED ON THE FRONT OF THE DEVICE PLATE WITH PERMANENT POLYESTER TAPE. LOCATE ALL LABELS AT THE BOTTOM OF THE PLATE IN THE SAME LOCATION THROUGHOUT.

3.17 ONGOING OPERATION

CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF, AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY GENERAL CONTRACTOR / OWNER. OUTAGES SHALL BE MOMENTARY IN NATURE. EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN ACCIDENTAL OUTAGE) SHALL BE SCHEDULED 48 HOURS IN ADVANCE.

3.18 FLEXIBLE CONNECTIONS

PROVIDE FLEXIBLE ELECTRICAL CONDUIT AND CONDUCTORS HAVING A SLACK, 90-DEGREE BEND OR LOOP IN ANY PLANE BETWEEN CONNECTIONS AT ALL VIBRATION ISOLATED EQUIPMENT AND THE FIRST ATTACHMENT TO BUILDING STRUCTURE OR CABINETS, PANELS OR BOXES MOUNTED THEREON.

3.19 SALVAGE

ALL EXISTING EQUIPMENT REMOVED DURING THE COURSE OF THIS PROJECT SHALL BE OFFERED TO OWNER FOR SALVAGE. ANY EQUIPMENT SELECTED BY OWNER SHALL BE DELIVERED TO OWNER ON SITE. ALL REMAINING EQUIPMENT BECOMES THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

3.20 SEISMIC PROTECTION

- THIS PROJECT IS SUBJECT TO THE SEISMIC BRACING REQUIREMENT OF THE INTERNATIONAL BUILDING CODE, 2012 EDITION. THE FOLLOWING CRITERIA ARE APPLICABLE TO THIS PROJECT:
  - SEISMIC USE GROUP: II; SEISMIC CLASS CATEGORY: D; SEISMIC DESIGN CATEGORY: D.
- IT IS RECOMMENDED THAT THE CONTRACTOR ENLIST THE SERVICES OF A QUALIFIED SEISMIC BRACING VENDOR/ SUPPLIER. PROVIDE BRACING FOR IDENTIFIED EQUIPMENT AND SYSTEM.
- ELECTRICAL EQUIPMENT: ELECTRICAL EQUIPMENT SHALL INCLUDE THE FOLLOWING ITEMS TO THE EXTENT REQUIRED ON THE DRAWINGS OR IN OTHER SECTIONS OF THESE SPECIFICATIONS TO BE SEISMICALLY PROTECTED:
  - LIGHT FIXTURES, TRANSFORMERS, SWITCHBOARDS, PANELBOARDS.
- ELECTRICAL SYSTEMS: THE FOLLOWING ELECTRICAL SYSTEMS SHALL BE SEISMICALLY PROTECTED IN ACCORDANCE WITH THIS SPECIFICATION:
  - LIGHTING, POWER, SECURITY, COMMUNICATIONS AND FIRE ALARM.
- CONDUITS REQUIRING NO SPECIAL SEISMIC RESTRAINTS: SEISMIC RESTRAINTS MAY BE OMITTED FROM ELECTRICAL CONDUIT LESS THAN 2-1/2 INCHES TRADE SIZE. ALL OTHER INTERIOR CONDUIT SHALL BE SEISMICALLY PROTECTED AS SPECIFIED.

END OF SECTION 26000

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DRAWN BY: BD/DGR
CHECKED BY: DSA
DWG NO.: 19033 E2 Specs.dwg
SCALE (HORIZ): N/A
SCALE (VERT): N/A
PLOT DATE: 2/6/20

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

JOSEPH E. GINSER
02/08/2020

REV.	DATE	DESCRIPTION	BY	APP'D

CARSON CITY PRODUCTION WELLS #24
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT NO. 9.1811
SHEET SPECIFICATIONS

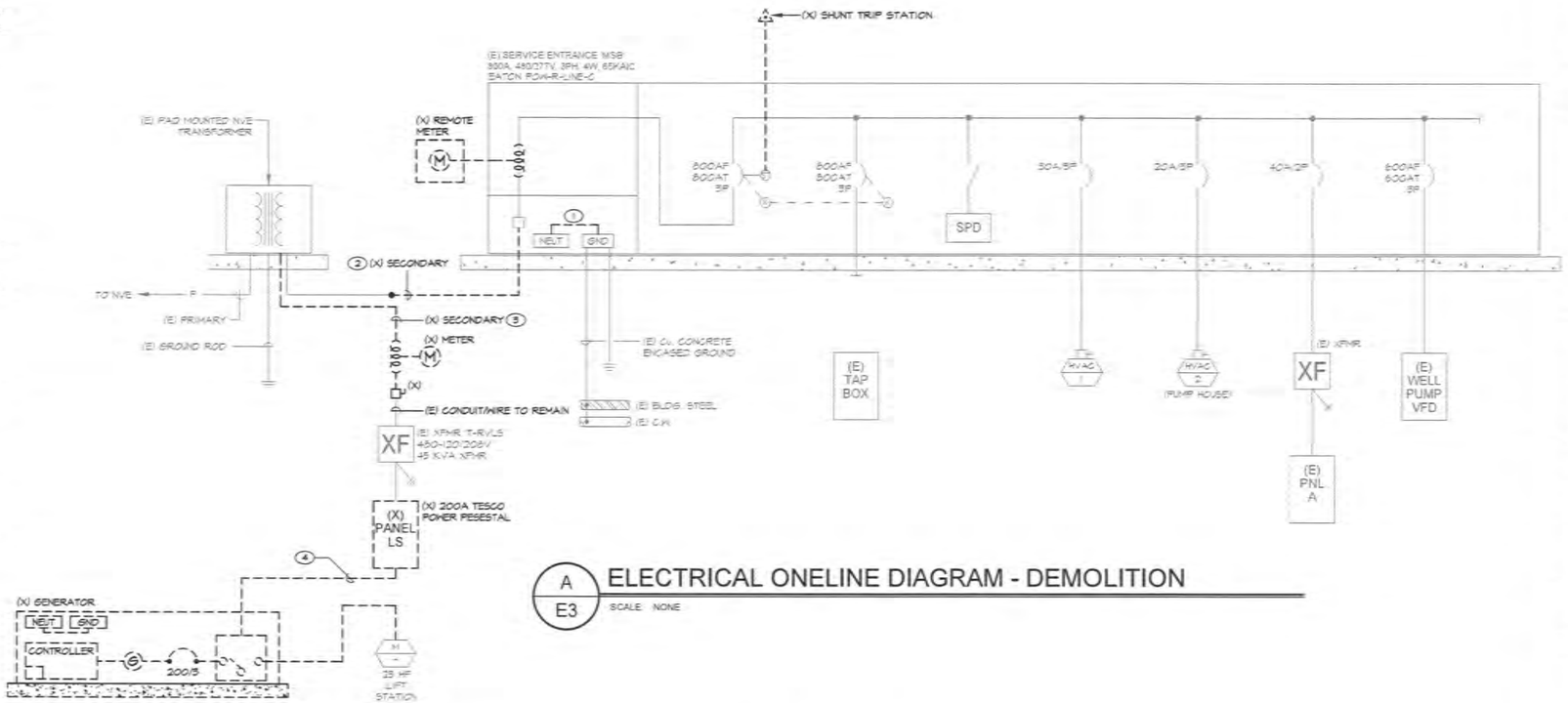
SHEET
E2
OF
*

GENERAL NOTES

1. (X) AND/OR DASHED LINES INDICATE EXISTING EQUIPMENT TO BE REMOVED, (E) AND/OR HALFTONE LINES INDICATE EXISTING EQUIPMENT, (N) AND/OR SOLID LINES INDICATE NEW EQUIPMENT UNLESS NOTED OTHERWISE.
2. ALL CONDUCTOR SIZES ARE BASED ON COPPER. ALUMINUM IS NOT PERMITTED.
3. PANELBOARD AND BREAKER INTERRUPTING CAPACITIES (AIC) SHALL BE FULLY RATED AS AN ASSEMBLY. SERIES RATING OF BREAKER DEVICES AND EQUIPMENT IS NOT PERMITTED.
4. ALL SWITCHBOARDS AND DISTRIBUTION BOARDS SHALL BE FULLY BUSSED.
5. CONDUCTORS SHALL BE TYPE THHN/THWN 90 DEGREES C RATED.
6. ALL WORK SHALL BE IN ACCORDANCE WITH NEC AND LOCAL CODES.
7. PROVIDE ENGRAVED NAMEPLATES FOR ALL EQUIPMENT.
8. COORDINATE ALL OUTAGES WITH OWNER PRIOR TO TAKING EQUIPMENT OUT OF SERVICE.
9. ALL WORK SHALL BE COORDINATED WITH OWNER AND ALL OTHER CONTRACTORS ON SITE. WORK REQUIRING SHUTDOWNS OF PANELS AND EQUIPMENT SHALL BE COORDINATED IN ADVANCE. EFFORT SHALL BE MADE TO MINIMIZE DOWNTIME. AFFECTED AREAS SHALL BE KEPT TO A MINIMUM. THE MAXIMUM DURATION FOR DOWNTIME TO ANY PART OF THE FACILITY SHALL BE NO LONGER THAN 6 HOURS. CONTRACTOR SHALL SUBMIT WRITTEN REQUEST FOR DOWNTIME A MINIMUM OF 5 DAYS PRIOR TO ACTUAL SHUTDOWN.
10. ALL CONDUCTORS SHALL BE ADEQUATELY LABELED PRIOR TO DISCONNECTION.

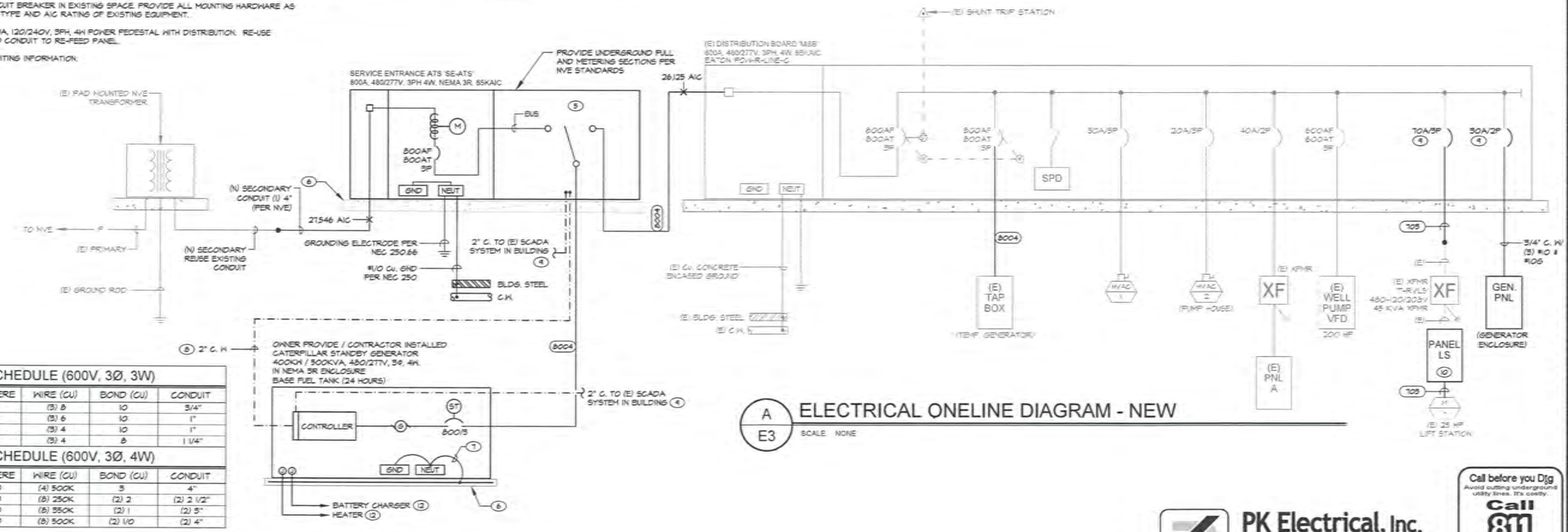
SHEET NOTES

1. DISCONNECT NEUTRAL/GROUND BOND IN EXISTING EQUIPMENT.
2. REMOVE EXISTING NV ENERGY SECONDARY CONDUCTORS FROM TRANSFORMER TO SERVICE ENTRANCE. CONDUIT TO BE RE-USED AND EXTENDED TO NEW ATS. SEE SITE PLAN FOR LOCATION.
3. REMOVE EXISTING NV ENERGY SECONDARY CONDUCTORS FROM TRANSFORMER TO METER/DISCONNECT. CONDUIT TO BE RE-USED AND INTERCEPTED/EXTENDED. SEE SITE PLAN.
4. DEMOLISH CONDUCTORS BETWEEN PANELBOARD AND GENERATOR. ABANDON CONDUIT IN PLACE. SEE SITE PLAN.
5. PROVIDE AND INSTALL SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH (ATS). 800A, 480V, 4-POLE, NEMA 3R, OPEN TRANSITION.
6. CONTRACTOR SHALL PROVIDE CONCRETE EQUIPMENT PAD PER MANUFACTURER'S REQUIREMENTS.
7. CONTRACTOR TO PROVIDE AND INSTALL SUPPLEMENTAL GROUND ELECTRODE AT GENERATOR. LENGTH SHALL BE MINIMUM 20'-0" OF #4 BARE COPPER UFER GROUND IN GENERATOR EQUIPMENT FOOTING/PAD AND BOND TO GENERATOR GROUND BAR AS REQUIRED PER NEC 250.52.
8. PROVIDE (6) #14 WIRE.
9. PROVIDE (6) #14 WIRE AND (1) CAT-6 SHIELDED CABLE. VERIFY WITH OWNER FOR TERMINATION LOCATION.
10. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. MATCH TYPE AND AIC RATING OF EXISTING EQUIPMENT.
11. PROVIDE NEW 200A, 120/240V, 3PH, 4W POWER PEDESTAL WITH DISTRIBUTION. RE-USE EXISTING PAD AND CONDUIT TO RE-FEED PANEL.
12. SEE E4 FOR CIRCUITING INFORMATION.



A E3 ELECTRICAL ONELINE DIAGRAM - DEMOLITION

SCALE: NONE



A E3 ELECTRICAL ONELINE DIAGRAM - NEW

SCALE: NONE

FEEDER SCHEDULE (600V, 3Ø, 3W)

FEEDER	AMPERE	WIRE (CU)	BOND (CU)	CONDUIT
405	40	(3) 8	10	3/4"
505	50	(3) 6	10	1"
605	60	(3) 4	10	1"
705	70	(3) 4	8	1 1/4"

FEEDER SCHEDULE (600V, 3Ø, 4W)

FEEDER	AMPERE	WIRE (CU)	BOND (CU)	CONDUIT
4004	400	(4) 500K	3	4"
5004	500	(8) 250K	(2) 2	(2) 2 1/2"
6004	600	(8) 350K	(2) 1	(2) 3"
8004	800	(8) 500K	(2) 1/0	(2) 4"

DESIGNED BY: DGR/DSA
DRAWN BY: ED/DGR
CHECKED BY: DSA
DWG NO.: 19031E3 Online.dwg
SCALE (HOR/2): N/A
SCALE (VERT): N/A
PLOT DATE: 2/6/20

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSEPH E. GANSER - EXP: 6/30/21 - ELECTRICAL - No.21011 - DO NOT VOID

REV.	DATE	DESCRIPTION	BY	APP'D

CARSON CITY PRODUCTION WELLS #24
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT NO. 9.1811
ELECTRICAL ONELINE DIAGRAMS

SHEET E3 OF *

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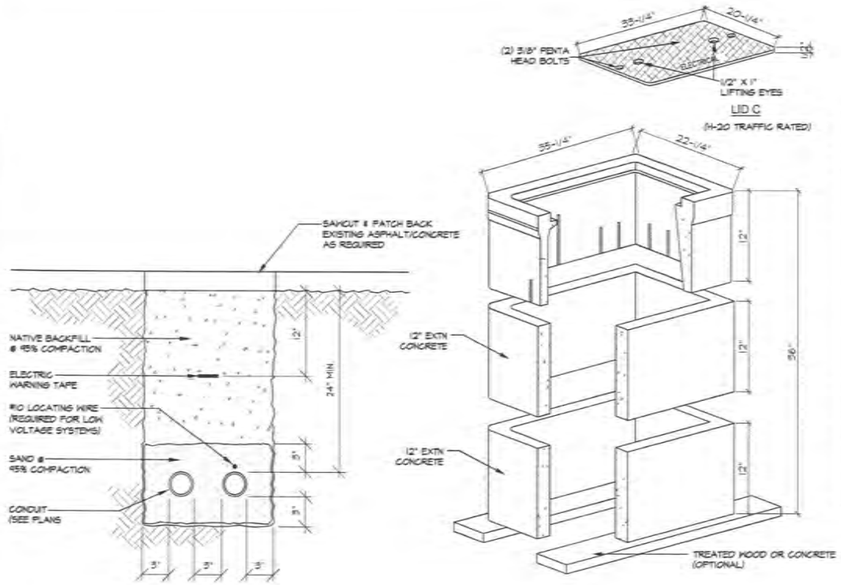


TYPICAL 2 CONDUIT TRENCH DETAIL

B / E4

SCALE: NONE

N-36 CONCRETE BOX

C / E4

SCALE: NONE

LOAD CALCULATION: (E) DIST. BOARD - 800A

LOAD DESCRIPTION	LIGHTING	RECEPTS.	EQUIP.	MOTOR	KITCHEN	HEAT	TOTAL
(E) HVAC 1				7,500			7,500
(E) HVAC 2				7,500			7,500
(E) PNL A			8,900				8,900
(E) WELL PUMP VFD				287,600			287,600
(E) LIFT STATION				26,900			26,900
GENERATOR PANEL			5,800				5,800
Total Connected Load:			14,700	329,500			344,200
Largest Motor:				287,600			
NEC Demand Factor	100%	100% 1st 10KW 50% for rest	100%	100% + 25% of Largest Load	65%	100%	
NEC Code Reference	NEC 220.42	NEC 220.44		NEC 430.24	NEC 220.56	NEC 220.51	
Total Demand Load:			14,700	401,400			416,100
NEC Load:	416.100	at 480/277V		500.5 Amps			

RACEWAY LEGEND

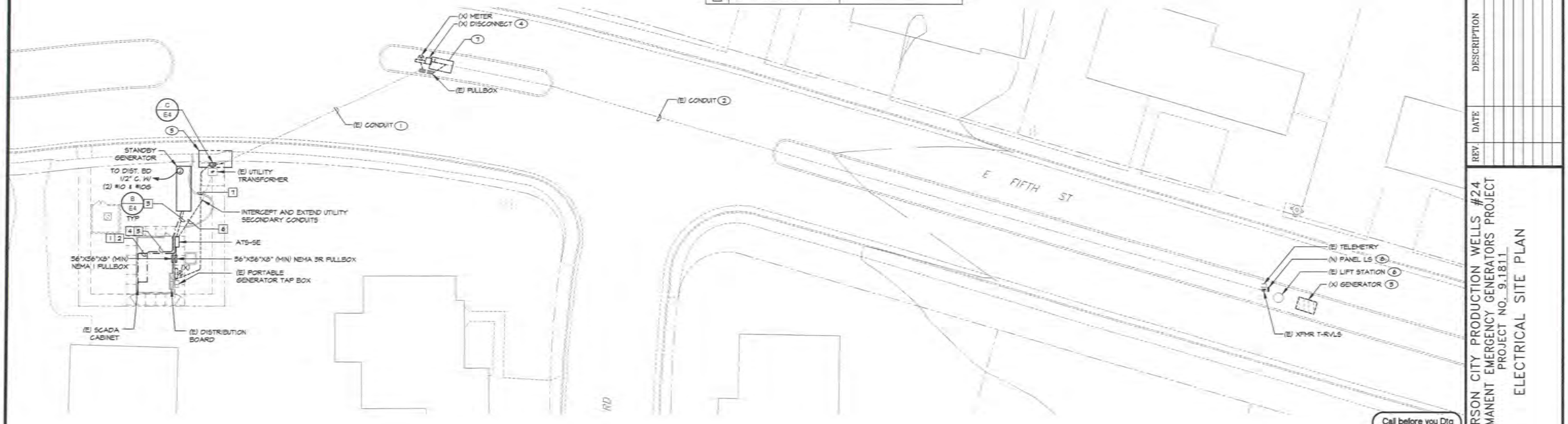
#	CONDUIT SIZE	LOCATION (TO FROM)
1	2" C. W/ (8) #14	ATS TO TELEMETRY
2	2" C. W/ CAT-6	ATS TO TELEMETRY
3	(2) 4" C. W/ (4) 500K & #1/0G	ATS TO GENERATOR
4	2" C. W/ (8) #14	GENERATOR TO TELEMETRY
5	2" C. W/ CAT-6	GENERATOR TO TELEMETRY
6	(1) 4" C.	(E) UTILITY XF TO ATS
7	(2) 4" C. W/ (4) 500K & #1/0G	PULLBOX TO GEN TAP BOX

GENERAL NOTES

1. (X) AND/OR DASHED LINES INDICATE EXISTING EQUIPMENT TO BE REMOVED, (E) AND/OR HALF TONE LINES INDICATE EXISTING EQUIPMENT, (R) AND/OR DASHED LINES INDICATE EXISTING EQUIPMENT TO BE RELOCATED, (N) AND/OR SOLD LINES INDICATE NEW EQUIPMENT, UNLESS NOTED OTHERWISE.
2. REPAIR AND REPLACE ALL LANDSCAPING AND SITEWORK DISTURBED BY EXCAVATION INCLUDING BUT NOT LIMITED TO IRRIGATION LINES, LAWNS, PLANTING, ETC.
3. PAINT EXPOSED BUILDING MOUNTED CONDUITS TO MATCH EXISTING FINISH.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL 1-800-227-2600 FOR LOCATES PRIOR TO DIGGING. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL NON-UTILITY UNDERGROUND ITEMS.
5. THE CONTRACTOR SHALL REMOVE FROM THE JOB SITE ALL ABANDONED MATERIALS LEFT OVER FROM DEMOLITION. ITEMS MAY INCLUDE BUT ARE NOT LIMITED TO, CONDUIT, FASTENERS AND BOXES.

SHEET NOTES

1. REMOVE CONDUCTORS FROM CONDUIT. RE-USE CONDUIT FOR NEW FEED TO EXISTING RIVERVIEW LIFT STATION. SEE ONELINE DIAGRAM.
2. EXISTING UNDERGROUND CONDUIT AND WIRING TO REMAIN AND BE RE-USED.
3. REMOVE GENERATOR, PAD, AND WIRING BACK TO SOURCE. DEMOLISH CONDUIT ABOVE GRADE AND CAP CONDUITS. REMOVE CONCRETE PAD, COORDINATE WITH CIVIL DRAWINGS. GENERATOR TO BE TURNED OVER TO OWNER.
4. DEMOLISH REMOTE METER, DISCONNECT, AND SUPPORTS. CAP CONDUITS AT GRADE AND REMOVE CONDUCTORS TO EXISTING IN-GROUND PULLBOX.
5. INTERCEPT EXISTING CONDUIT (NOTE 2) IN VICINITY OF NV ENERGY TRANSFORMER. EXTEND 2" PVC TO NEW JUNCTION BOX AS SHOWN. COORDINATE ALL WORK WITH NV ENERGY. REMOVE SIDEWALK/LANDSCAPING AS REQUIRED. PATCH AND REPAIR ALL WORK UPON COMPLETION.
6. SPLICE AND EXTEND FEEDER FROM PEDESTAL MOUNTED PANELBOARD TO EXISTING LIFT STATION WHERE GENERATOR IS REMOVED FROM SYSTEM. EXISTING LIFT STATION TO BE FED FROM MSB'. SEE ONELINE DIAGRAM.
7. RE-ROUTE AND EXTEND EXISTING CONDUIT FROM REMOVED DISCONNECT TO EXISTING PULL BOX.
8. SEE ONELINE FOR NEW PEDESTAL PANEL REQUIREMENTS. EXTEND ALL CONDUIT AND WIRING AS REQUIRED TO NEW BRANCH BREAKERS.



ELECTRICAL SITE PLAN

A / E4

SCALE: 1" = 20'-0"

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DESIGNED BY: DGB/DSA
DRAWN BY: BD/DGR
CHECKED BY: DSA
DWG NO.: 19033 E4 Electrical Site.dwg
SCALE (HORIZ): N/A
SCALE (VERT): N/A
PLOT DATE: 2/6/20

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PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
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PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSEPH E. GANSER - EXP. 06/30/21 - ELECTRICAL - No 21010 - 02/06/2020

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CARSON CITY PRODUCTION WELLS #24
PERMANENT EMERGENCY GENERATORS PROJECT
PROJECT NO. 9.1811
ELECTRICAL SITE PLAN

SHEET E4 OF *