

STAFF REPORT FOR PLANNING COMMISSION MEETING JANUARY 25, 2012

FILE NO: SUP-11-145

AGENDA ITEM: H-1

STAFF AUTHOR: Jennifer Pruitt, Principal Planner

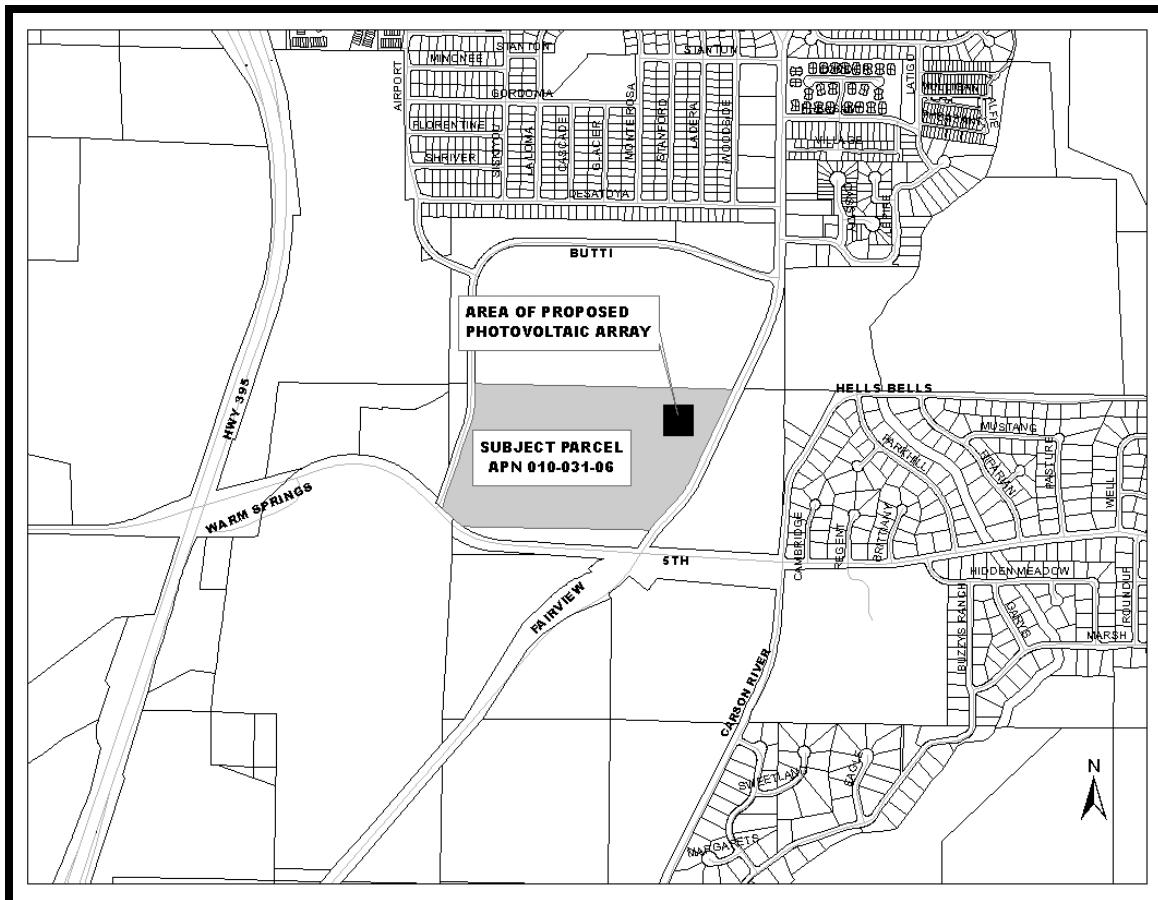
REQUEST: Approval of a Special Use Permit to allow the installation of ground mounted solar panels (photovoltaic array) within the northeastern portion of the Carson City Wastewater Treatment Plant site.

APPLICANT / OWNER: Carson City

LOCATION: 3320 East Fifth Street

APN: 010-031-06

RECOMMENDED MOTION: "I move to approve SUP-11-145, a Special Use Permit application from Carson City, to allow ground mounted solar panels, on property zoned Public Regional, located at 3320 East Fifth Street, Assessor's Parcel Number 010-031-06, based on seven findings and subject to the recommended conditions of approval contained in the staff report."



RECOMMENDED CONDITIONS OF APPROVAL:

The following shall be completed prior to commencement of the use:

1. The applicant must sign and return the Notice of Decision / conditions of approval within 10 days of receipt of notification. If the Notice of Decision is not signed and returned within 10 days, the item will be rescheduled for the next Planning Commission meeting for further consideration.
2. The applicant shall meet all the conditions of approval and commence the use (obtain and maintain a valid building permit) for which this permit is granted within twelve months of the date of final approval. A single, one-year extension of time may be granted if requested in writing to the Planning and Community Development Division thirty days prior to the one-year expiration date. Should this permit not be initiated within one year and no extension granted, the permit shall become null and void.

Conditions required to be incorporated into the proposed development plan.

3. All development shall be substantially in accordance with the development plans approved with this application, except as otherwise modified by the conditions of approval herein.
4. All improvements shall conform to City standards and requirements.

The following shall be submitted or included as part of a building permit application:

5. The applicant shall submit a copy of the Notice of Decision / conditions of approval, signed by the applicant and owner.
6. Dust control measures must be employed during the construction period and also incorporated into the manufacturer recommended maintenance program.
7. Should the PV array cease to operate for a period of one year, or falls into a state of disrepair, it shall be considered abandoned and removed at Carson City's expense.
8. This project requires an application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliance with all adopted construction codes and municipal ordinances applicable to the scope of the project.
9. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled: *Commercial Submittal Requirements*. This handout may also be found online at: www.carson.org/building
10. The PV array shall be enclosed within the security fencing material as noted in the submittal.

11. The PV array shall be setback a minimum of 100 feet from all property boundaries.
12. All light fixtures shall be installed in such a manner that the shielding is installed as designed. Fixtures shall be International Dark Sky Association approved such as Dark Sky Friendly or equivalent with full cutoff lighting for area.

LEGAL REQUIREMENTS: CCMC 18.02.050 (Review); 18.02.080 (Special Use Permits) and 18.04.185 (Public Regional)

MASTER PLAN DESIGNATION: Public /Quasi Public

ZONING DISTRICT: Public Regional (PR)

KEY ISSUES: Will the proposed Photovoltaic project cause material damage to surrounding properties? Is this an appropriate location for the proposed use?

SURROUNDING ZONING AND LAND USE INFORMATION

NORTH: Public Regional PR- Corporate Yard
SOUTH: Public Regional PR - Nevada State Prison
EAST: Public P-Vacant land
WEST: Public Regional PR-Open Space

ENVIRONMENTAL INFORMATION

- 1 FLOOD ZONE: Zone AE (100-year flood plain) 32000/0111E
- 2 EARTHQUAKE FAULT: More than 500 feet
- 3 SLOPE/DRAINAGE: The parcel is generally flat
- 4 SOILS: 22 Greenbrae. Fine, sandy loam 1-2% slopes.13 Dalzell Variant. Fine, sandy loam 1-4% slopes.

SITE DEVELOPMENT INFORMATION

- 1 LOT SIZE: 39 Acres
- 2 EXISTING LAND USE: Wastewater Treatment Plant. Various public uses, offices and storage.
- 3 STRUCTURE HEIGHT: Various buildings and the Carson City Wastewater Treatment Plant are located on the site.
- 4 PARKING: adequate parking already located on site.
- 5 SETBACKS: Determined per SUP
- 6 VARIANCES REQUESTED: none

REVIEW HISTORY

- March 30, 2000: Utility complex vehicle and materials storage area was proposed. A letter was issued by Juan Guzman stating no additional review by Special Use Permit was required to allow for this proposed expansion as it was covered under the original special use permit U-97/98-03.
- July 30, 1997: Special Use Permit U-97/98-3 approved review of the master plan for the City's Corporate Yard area, including allowing phased office and

accessory development. This plan is still in effect and will continue, as some of the items referenced here have not been completed.

- April 24, 1996: Special Use Permit U-95/96-34 approved construction of a warehouse and office additions.
- October 25, 1994: Special Use Permit U-94/95-16 approved construction of a 600 square foot asphalt storage building and replacement of an existing tank with a new 6,700 gallon tank.
- April 28, 1994: Special Use Permit U-91/92-35 approved construction of a 6,000 square foot vehicle storage building.
- August 16, 1990: Special Use Permit U-90/91-3 approved allowing construction of a new 3,000 square foot office building for the use of the Utilities and Sewer Department.
- July 19, 1990: Special Use Permit U-89/90-32 approved allowing construction of a new 240 square foot storage building for use by the Health Department for storage.
- January 31, 1989: Special Use Permit U-88/89-13 approved to allow construction of a 2,700 square foot expansion for water maintenance offices.
- February 02, 1989: Special Use Permit U-88/89-9 approved relocation of two Park and Recreation Department buildings from Beverly Drive to the City's Corporate Yard due to the pending construction of the City's senior citizen buildings.

DISCUSSION:

A Special Use Permit is required by CCMC Section 18.04.170, which states that:

- *The Conditional Uses in the Public Regional zoning district which require a Special Use Permit are: Buildings and facilities owned, leased or operated by the city of Carson City, Carson City Unified School District or any other district, state of Nevada or the government of the United States.*
All public district development standards relative to lot area, setbacks, building height, landscaping, off-street parking and signs shall be based on requirements and conditions of the Special Use Permit.

The Carson City Wastewater Treatment Plan Solar Photovoltaic (PV) Project consists of the installation of a 300 KW Solar Photovoltaic System on the 39 acre site. The construction of the project includes a ground-mounted PV array of approximately 1.6 acres including panels, inverter and racking system.

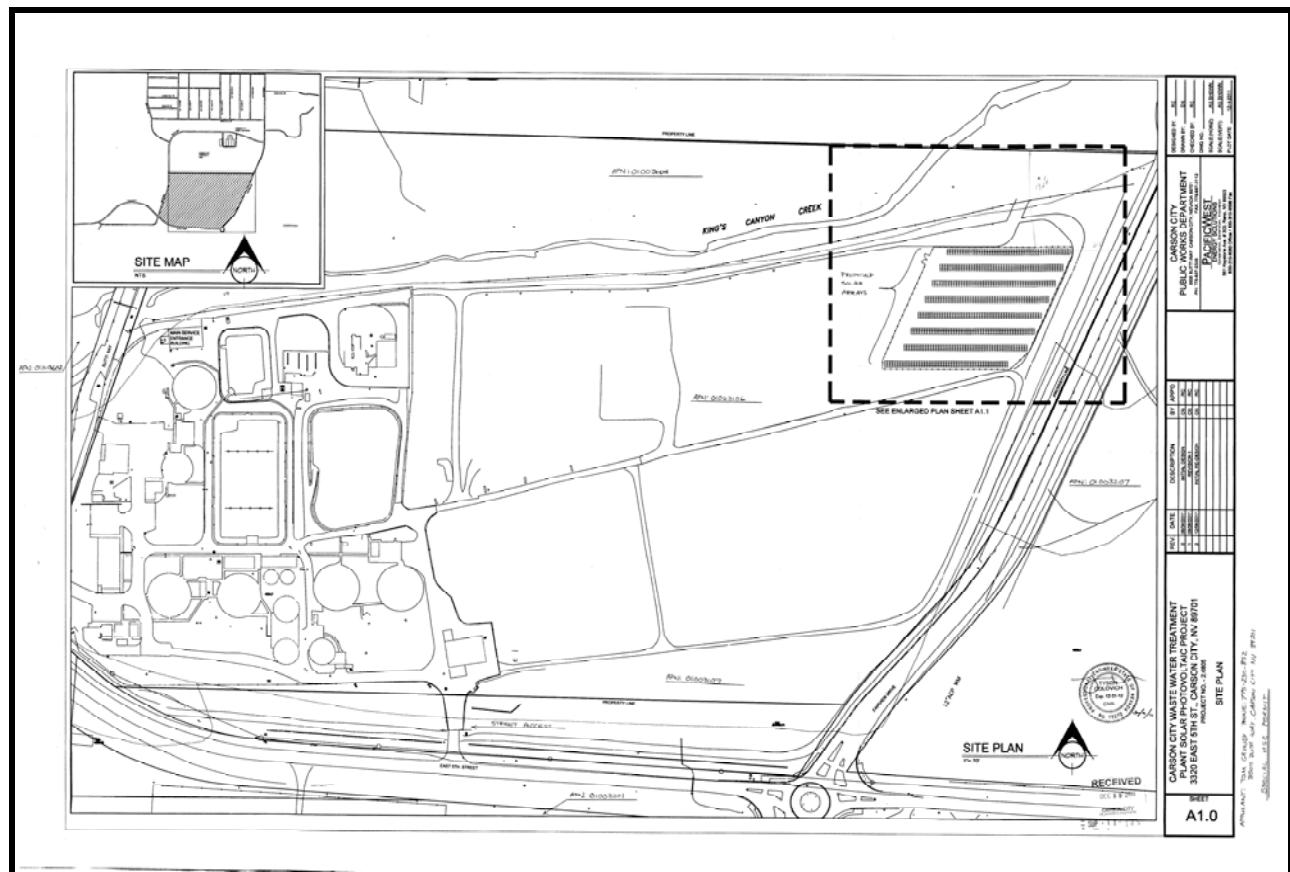
Green energy is a popular term that describes environmentally friendly sources of power and energy. Unlike conventional energy sources such as oil, gas, coal etc., green energy typically refers to renewable and non-polluting energy sources. Consumers, businesses, and organizations can support the development of clean technologies by choosing to

purchase green power instead of conventional electricity. In effect, this will reduce the environmental impact associated with conventional electricity generation and also increase their energy independence.

Carson City is proposing to locate an approximate 70,000 square foot ground mounted (approximately nine feet in overall height) PV array in the northeastern portion of the Wastewater Treatment Plant site. The project site area is currently an abandoned and filled settlement pond that was once used by the wastewater treatment plant.

The PV panels selected for this project is the TSM-PA05 (Universal Solution) a product made by Trina Solar. As noted by Trina Solar, the product is easy to install, has a high performance level under light conditions, (cloudy days, mornings and evenings), guaranteed to produce a power output, the most popular panel produced by Trina Solar and is a perfect panel for a larger scale ground mounted installation. The PV array will be enclosed inside a 7.5 foot tall chain-link fencing material, similar to the existing Wastewater Treatment Plant fencing.

In reviewing the information provided by the applicant and the required findings as identified below, the findings to grant approval of this Special Use Permit can be made. Therefore, it is recommended that the Planning Commission approve this Special Use Permit application, SUP-11-145.



PUBLIC COMMENTS: Public notices were mailed on January 06, 2012, notices were sent to 34 adjacent property owners within 300 feet of the subject site pursuant to the provisions of NRS and CCMC. Staff has received one comment via email requesting “Dark Sky” lighting practices from adjacent property owner, State of Nevada. There is no lighting proposed for this project at this time. Any comments that are received after this report is complete will be submitted prior to or at the Planning Commission meeting, depending on their submittal date to the Planning Division.

OTHER CITY DEPARTMENT OR OUTSIDE AGENCY COMMENTS: The following comments were received from various city departments. Recommendations have been incorporated into the recommended conditions of approval, where applicable.

Building Division comments:

These comments do not constitute a complete plan review, but are merely observations based on the information and plan sheets provided. The comments do not reflect all submittal requirements necessary for this project, but are those requirements that have generated concerns with similar projects in the past.

GENERAL COMMENTS

1. This project requires an application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliance with all adopted construction codes and municipal ordinances applicable to the scope of the project.
2. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled: *Commercial Submittal Requirements*. This handout may also be found online at: www.carson.org/building

Engineering Division comments:

- The Engineering Division has no preference or objection to the special use request.

Fire Department comments:

- The applicant must meet all codes and ordinances as they relate to this request.

Health Department comments:

- Carson City Health and Human Services has no comments as the project was presented in the packet received in our office on December 30, 2011.

FINDINGS: Staff recommends approval of the Special Use Permit based the findings below, pursuant to CCMC 18.02.080 (Special Use Permits), subject to the recommended conditions of approval, and further substantiated by the applicant's written justification.

As herein described, the proposed project is consistent with the following applicable goals and policies (in *italics*) of the Master Plan in accordance with the seven findings (in **bold**) required for approval of a Special Use Permit:

1. The use will be consistent with the objectives of the Master Plan elements.

Chapter 3: A Balanced Land Use Pattern

Establishing a balance of land uses within the community promotes vitality and long-term economic stability. A balanced community is able to provide employment opportunities for its residents as well as a diverse choice of housing, recreational opportunities, and retail services. Carson City strives to maintain its strong employment base and extensive network of public lands while increasing housing options and the availability of retail services to serve residents of the City and surrounding growth areas.

The purpose of this project is to utilize alternative energy solutions (solar energy) to assist in the powering of the Carson City Wastewater Treatment Plant. This will not only provide a savings to Carson City, but will also help reduce the overall demand on the power grid. Materials used in the construction will be sustainable building materials and construction techniques to promote water and energy conservation (1.le, f).

The proposed ground-mounted photovoltaic arrays are being installed on the existing Wastewater Treatment Plant site. The project does not generate any redevelopment or infill. As such, this project complies with the intent of the priority infill development area goals. (1.2a).

This project is not at the urban interface and will not impact existing site features, to include mature trees and character-defining features. All work associated with this project will occur within the existing Wastewater Treatment property (1.4c).

As presented by the applicant, the proposed ground-mounted photovoltaic arrays are set back significantly from the site's north and east property lines. Because this site is zoned "Public Regional," the Special Use Permit specifies the setback requirements. (2. id).

Existing site conditions allow adequate access to the proposed project, without disturbing the site operations or neighboring parcels. Installation of this proposed project will not impact these existing improvements.

Chapter 6: Livable Neighborhoods and Activity Center

Carson City strives to be a city known for its safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and its vibrant, pedestrian-friendly Downtown. Access to parks, pathways, open space, and recreational facilities will be emphasized and the incorporation of thoughtful design and site planning techniques will be encouraged in all development. New commercial development will be focused in pedestrian-friendly, mixed-use activity centers located along major thoroughfares where they will be readily accessible to surrounding neighborhoods and may ultimately be served by transit. New higher-density housing will be encouraged as part of the overall land use mix along the City's major gateway corridors and within the Downtown area to provide a more diverse selection of housing types and price ranges for residents within walking distance of the City's primary job and activity center.

This project involves the installation of ground-mounted photovoltaic arrays. As such, this green energy project will use durable, long-lasting building materials. (6.1 a).

Photovoltaic arrays are a relatively new addition to the eastern portion of Carson City. This use will generate visual and technical interest due to its function and appearance. The arrays will be angled to the south to maximize exposure to the sun. It is important that the arrays are effective, without being a visual nuisance to the neighboring parcels. (6.lb).

Chapter 7: A Connected City

A connected city allows residents to travel within the community, and to other centers within the region, in a variety of ways using a safe, efficient, multi-modal transportation system. Carson City will 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. Additionally, the City will seek opportunities to expand existing transit services as feasible to increase travel choices for the community and to support a more compact pattern of growth.

As noted by the applicant, the project does not provide any additional pathways, but it also does not hinder existing pathways on and around the subject site.

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

During construction dust must be controlled and staff has recommended a condition of approval to this effect. Once complete, the proposed use should not create any objectionable noise, vibrations, odors, dust, glare or physical activity any more than the current use of the property does. Staff has included a condition of approval related to the manufacturers recommended dust control measures. Carson City will be required to use water or some form of dust control on the site.

The proposed PV array will not stand out in height or character compared to the Carson City facilities on site. Currently, there are solar panels located on multiple buildings at the

corporate yard, in addition to the PV array at the Carson High School, Eagle Valley Middle School and the Army National Guard Facilities all within the general area. The PV array will be partially screened from Edmonds Drive by existing berthing and existing evergreen trees on site.

It is not anticipated that the PV array will be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood.

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

The site is served by an adequate existing street network. Pedestrian movement will not be affected. Once the project is complete, vehicular traffic will be very minimal.

4. The project 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 proposed project will have no impact on the existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.

5. The project meets the definition and specific standards set forth elsewhere in this Title 18 for such particular use and meets the purpose statement of that district.

The existing use of the Wastewater Treatment Plant meets the purpose of the Public Regional zoning district. Upon approval of the Special Use Permit with the recommended conditions of approval, the proposed PV project will be in conformance with the requirements of the Carson City Municipal Code and related Development Standards.

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

In addition to the issues addressed in this Special Use Permit, the proposed PV project will require a building permit, related reviews and inspections and will therefore not be detrimental to the public health, safety, convenience and welfare.

The applicant is proposing to enclose the PV array with security fencing material as noted in the submittal.

7. The project will not result in material damage or prejudice to other property in the vicinity.

At this time there is no change proposed for the use of the subject site. The site will continue to be used as a Wastewater Treatment Plant.

Should the PV array cease to operate for a period of one year, or falls into a state of disrepair, it shall be considered abandoned and removed at Carson City's expense.

Respectfully submitted,

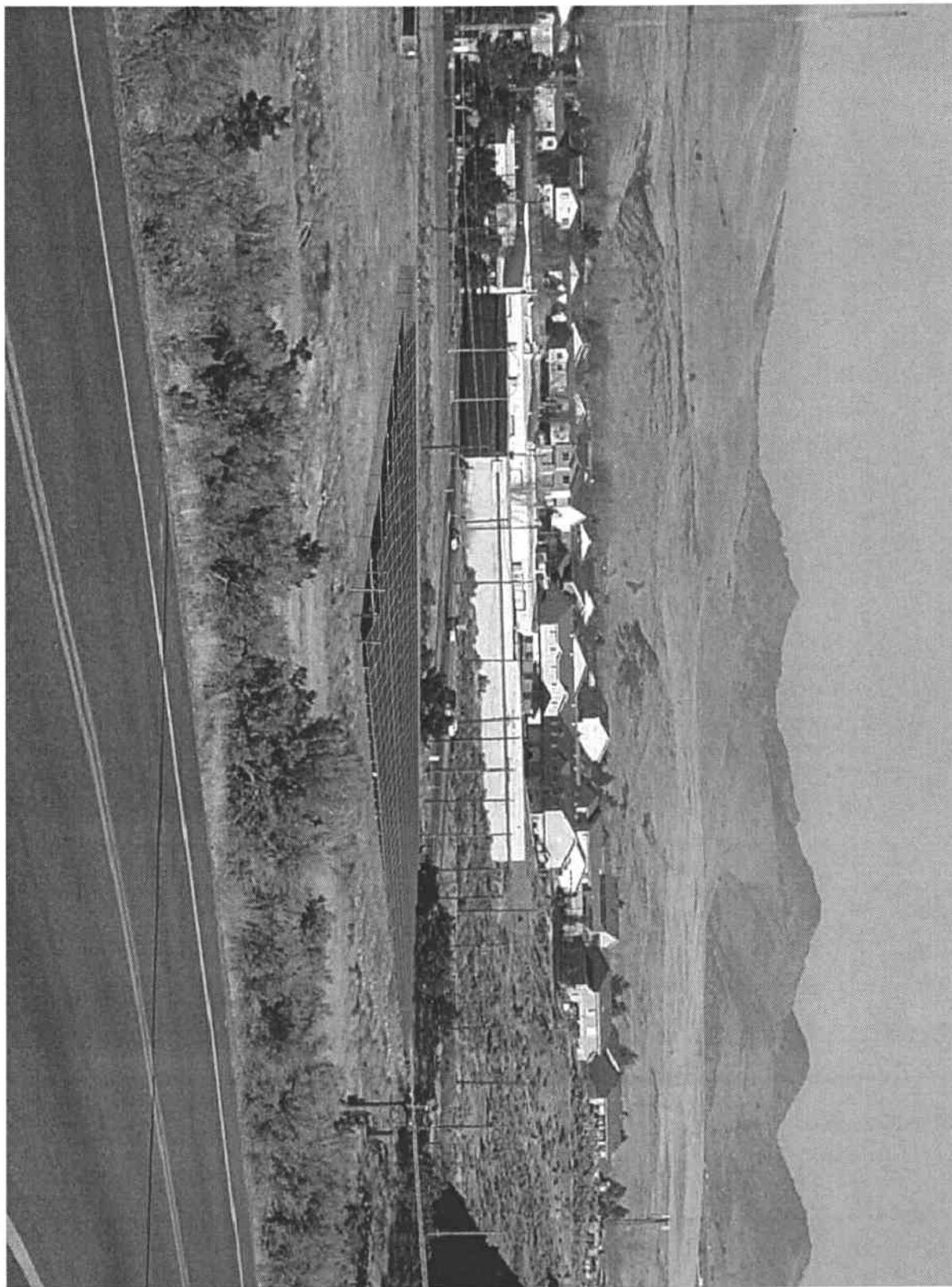
PUBLIC WORKS, PLANNING DIVISION

Jennifer Pruitt

Jennifer Pruitt, AICP, LEED AP
Principal Planner

Attachments:

- Application (SUP-11-145)
- Building Division comments
- Engineering Division comments
- Health Department
- Fire Department



**CARSON CITY
PUBLIC WORKS DEPARTMENT**

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

**CARSON CITY WASTEWATER TREATMENT
PLANT SOLAR PHOTOVOLTAIC PROJECT**

**VIEW FROM FAIRVIEW DRIVE
LOOKING NORTH**

DESIGNED BY: TG

DRAWN BY: DLO

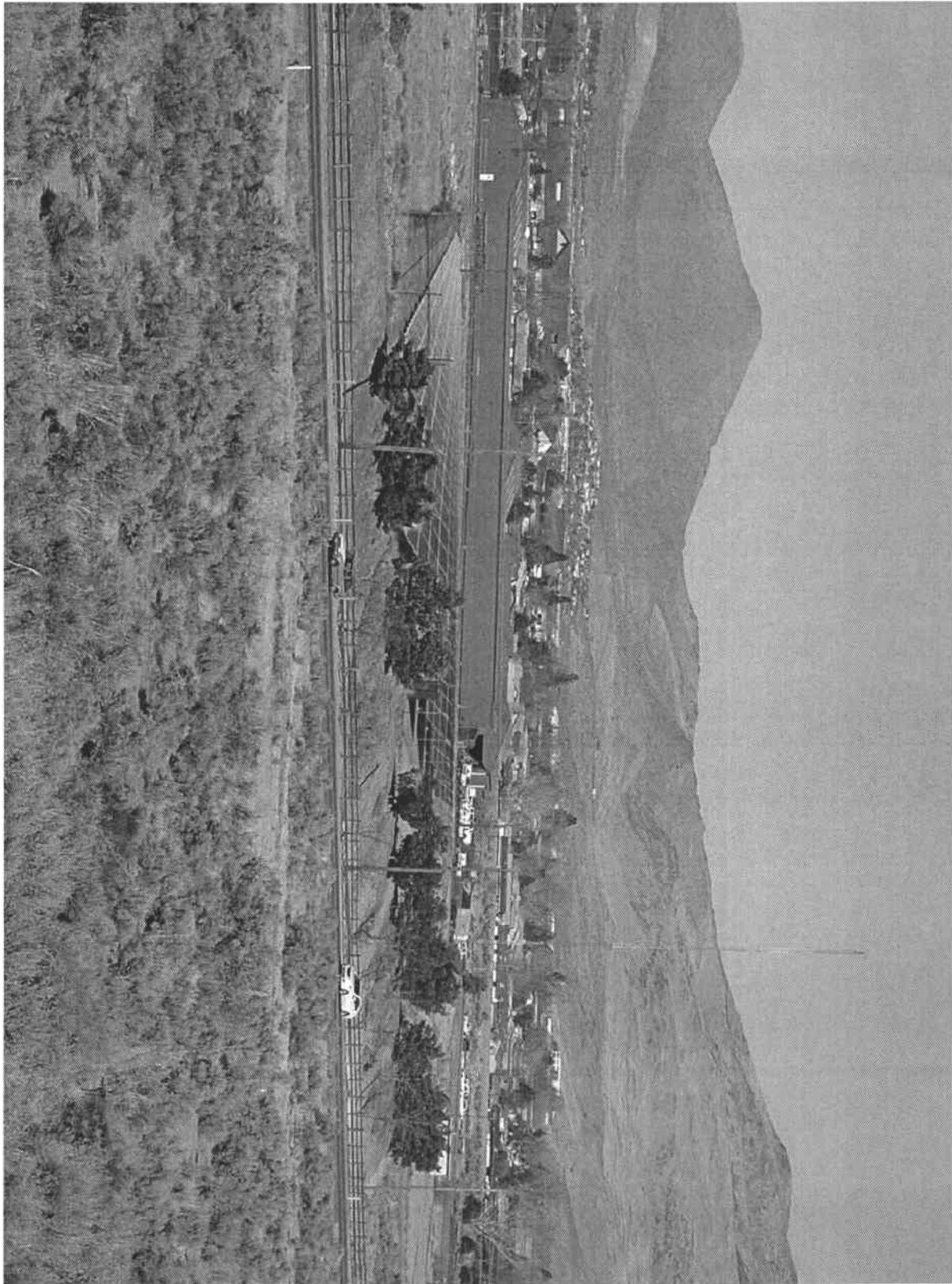
CHECKED BY: TG

SCALE (HORIZ): N/A

DATE: 1/10/12

FIGURE

1



CARSON CITY
PUBLIC WORKS DEPARTMENT

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

CARSON CITY WASTEWATER TREATMENT
PLANT SOLAR PHOTOVOLTAIC PROJECT

VIEW FROM EAST FIFTH STREET
LOOKING WEST

DESIGNED BY: TG

DRAWN BY: DLO

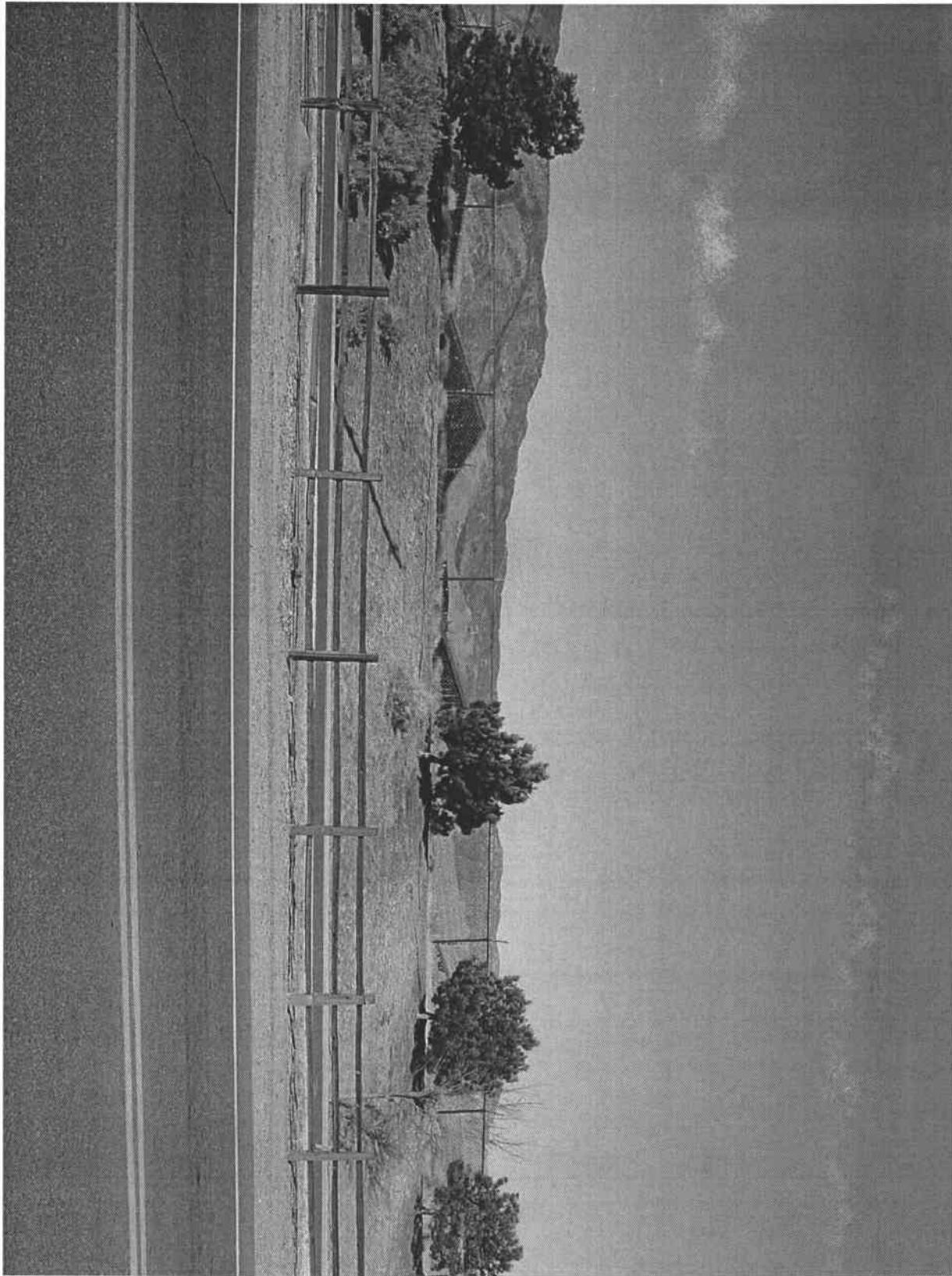
CHECKED BY: TG

SCALE (HORIZ): N/A

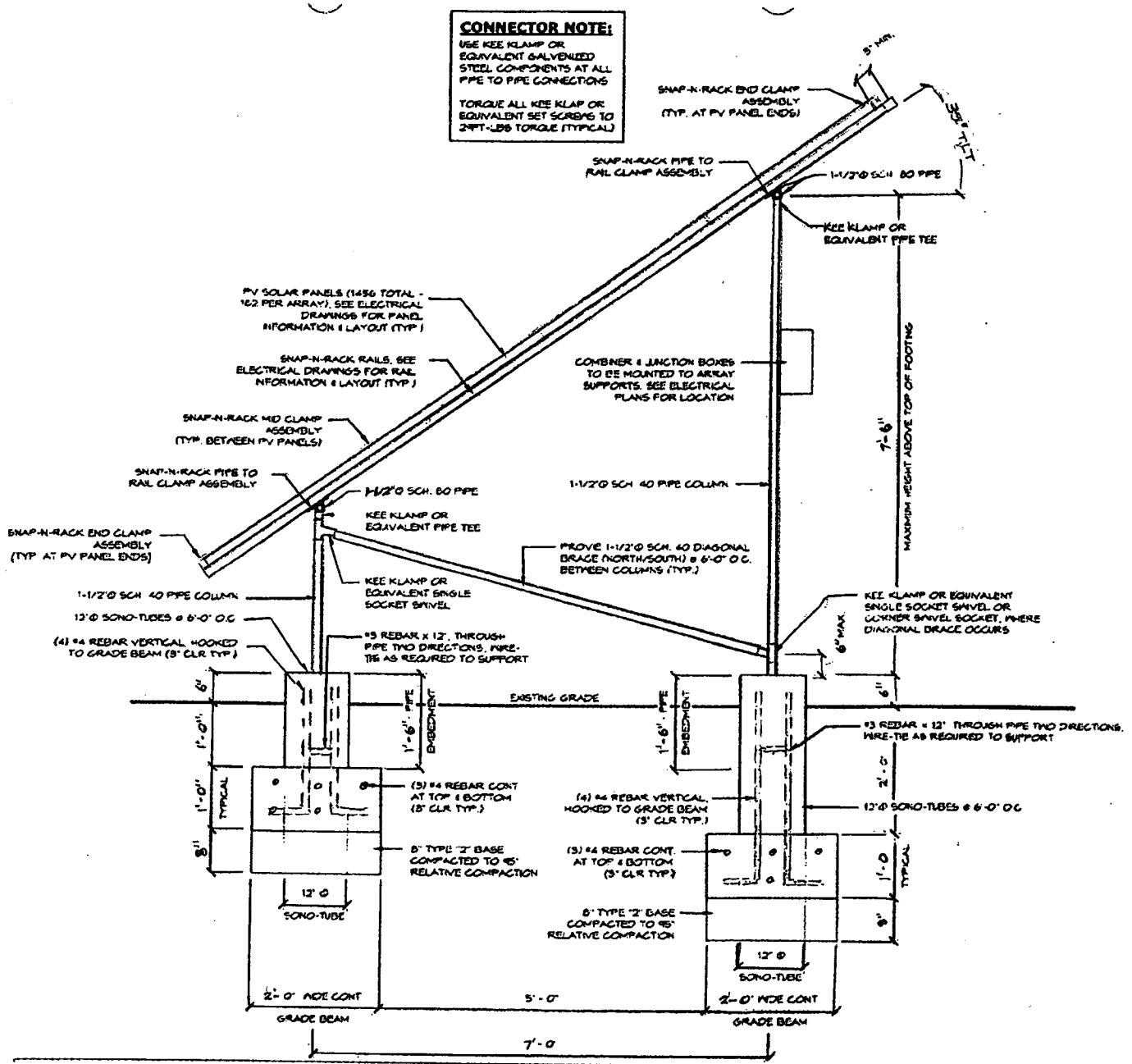
DATE: 1/10/12

FIGURE

2



<p>CARSON CITY PUBLIC WORKS DEPARTMENT</p> <p>3505 BUTTI WAY CARSON CITY, NEVADA 89701 PH: 887-2355 FAX: 887-2112</p>	<p>CARSON CITY WASTEWATER TREATMENT PLANT SOLAR PHOTOVOLTAIC PROJECT</p> <p>VIEW FROM FAIRVIEW DRIVE LOOKING WEST</p>	<p>DESIGNED BY: <u>TG</u></p> <p>DRAWN BY: <u>DLO</u></p> <p>CHECKED BY: <u>TG</u></p> <p>SCALE (HORIZ): <u>N/A</u></p> <p>DATE: <u>1/12/12</u></p>	<p>FIGURE</p> <p>3</p>
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RECEIVED

From: Skip Canfield <scanfield@lands.nv.gov>
To: "jpruitt@ci.carson-city.nv.us" <jpruitt@ci.carson-city.nv.us>
Date: 1/9/2012 1:20 PM
Subject: SUP-11-145

JAN 09 2012

CARSON CITY
PLANNING DIVISION

Hi Jenn... hope all is well with you and happy 2012!

I would like to provide the following comments on this proposal representing the State as owner of an adjacent property:

Utilize appropriate lighting:

- * Utilize consistent lighting mitigation measures that follow "Dark Sky" lighting practices.
- * Effective lighting should have screens that do not allow the bulb to shine up or out. All proposed lighting shall be located to avoid light pollution onto any adjacent lands as viewed from a distance. All lighting fixtures shall be hooded and shielded, face downward, located within soffits and directed on to the pertinent site only, and away from adjacent parcels or areas.

Skip Canfield, Program Manager
Nevada State Clearinghouse
State Land Use Planning Agency

901 South Stewart Street, Suite 5003
Carson City, NV 89701
775-684-2723
www.lands.nv.gov

**Engineering Division
Planning Commission Report
File Number SUP 11-145**

TO: Planning Commission
FROM: Rory Hogen, E.I.
DATE: January 5, 2012 **MEETING DATE:** January 25, 2012

SUBJECT TITLE:

Action to consider an application for a Special Use Permit to install solar panel units in the northeast corner of the Carson City Sewer property, 3320 E. Fifth St., apn 010-031-06.

RECOMMENDATION:

The Engineering Division has no preference or objection to the special use request.

DISCUSSION:

The Engineering Division has reviewed the conditions of approval within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses.

CCMC 18.02.080 (2a) - Adequate Plans

Plans will need to show all flood zones and elevations. The solar arrays will be in an AE Fema flood zone, and the northern portion will be very close to an AE flood WAY. The flood zone situation must be addressed as part of the placement for these arrays. Also, according to USGS maps, the earthquake hazard is considered extreme in this area. Please address.

CCMC 18.02.080 (5a) - Master Plan

The request is not in conflict with any Engineering Master Plans for streets or storm drainage.

CCMC 18.02.080 (5c) - Traffic/Pedestrians

No pedestrian or traffic issues are expected with this construction as it is well out of any traveled way.

CCMC 18.02.080 (5d) - Public Services

No City water, sewer or access services will be needed for this project.

From: Kathe Green
To: Brod, Janice; Pruitt, Jennifer
Date: 1/5/2012 2:24 PM
Subject: Fwd: Planning Commission Comments

>>> Dustin Boothe 1/5/2012 2:03 pm >>>

Kathe:

SUP-11-145 Carson City Health and Human Services has no comments as the project was presented in the packet received in our office on December 30, 2011.

Dustin Boothe, MPH, REHS
Carson City Health and Human Services
900 E. Long St.
Carson City, NV 89706
(775) 887-2190 ext. 7220

Please Note I have a new E-Mail address.
dboothe@carson.org

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From: Kathe Green
To: Brod, Janice; Pruitt, Jennifer
Date: 1/4/2012 3:58 PM
Subject: Fwd: SUP-11-145

>>> Stacey Giomi 1/4/2012 3:57 pm >>>

The Fire Department has no concerns or comments relative to this SUP, except that the project will be required to comply with all applicable codes and ordinances as enforced by the Fire Department.

File # (Ex: MPR #07-111)	SUP-11-145
Brief Description	WWTP PV Array
Project Address or APN	010-031-06
Bldg Div Plans Examiner	Kevin Gattis
Review Date	January 25, 2012
Total Spent on Review	

BUILDING DIVISION COMMENTS:

NOTE: These comments do not constitute a complete plan review, but are merely observations based on the information provided.

GENERAL PLAN SUBMITTAL COMMENTS:

1. This project requires an application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliance with all adopted construction codes and municipal ordinances applicable to the scope of the project.
2. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled: *Commercial Submittal Requirements*. This handout may also be found online at: www.carson.org/building

TSM-PA05

The Universal Solution



Easy installation and handling for various applications



Module can bear snow loads (5400PA) and wind loads (2400PA)



Guaranteed power output (0~+3%)



High performance under low light conditions (Cloudy days, mornings and evenings)



Independently certified by international certification body*



Manufactured according to International Quality and Environment Management System (ISO9001, ISO14001)



Currently the most popular panel produced by Trina Solar. Versatile and adaptable, with power output ranging from 220 to 240Wp, the TSM-PA05 panel is perfect for large-scale installations, particularly ground-mounted and commercial rooftop systems. Using reliable and carefully selected components that are tested at the Trina Solar Center of Excellence, this panel comes with a 25-year performance guarantee of 80% power production.

Trina Solar, **the best \$/kWh** value under the sun



Trina Solar (U.S.), Inc.

100 Century Center,
Suite 340, San Jose CA 95112,
USA

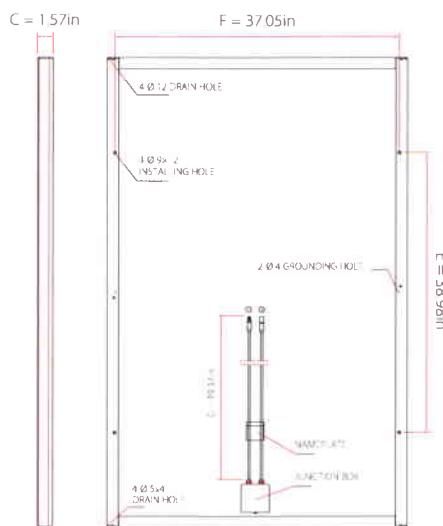
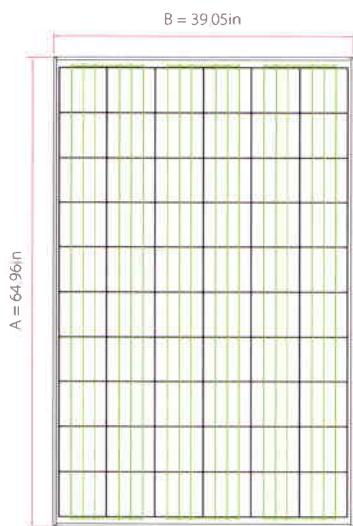
T +1 800 696 7114
F +1 800 696 0166
E usa@trinasolar.com

Founded in 1997, Trina Solar is a vertically integrated PV manufacturer, producing everything from ingots to modules, using both mono and multicrystalline technologies. At the end of 2010, the company will have a nameplate module capacity of 950MW. Trina Solar's wide range of products are used in residential, commercial, industrial and public utility applications throughout the world.

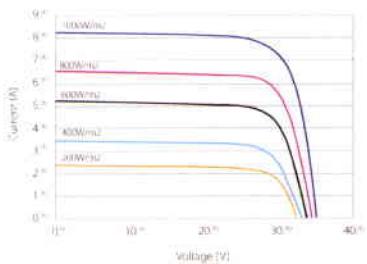
Only by matching an efficient cost-structure with proven performance will we, as an industry, achieve grid parity. And at Trina Solar, we have both.

TSM-PA05 The Universal Solution

Dimensions of PV module TSM-PA05



I-V Curves of PV module TSM-230PA05



Efficiency up to 14.7
Wattage up to 240
Years warranty 25

Certification



Electrical Data @ STC

	TSM-220PA05	TSM-225PA05	TSM-230PA05	TSM-235PA05	TSM-240PA05
Peak Power Watts-P _{MAX} (WP)	220	225	230	235	240
Power Output Tolerance-P _{MAX} (%)	0/+3	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage-V _{MAX} (V)	29.0	29.4	29.8	30.1	30.4
Maximum Power Current-I _{MPP} (A)	7.60	7.66	7.78	7.81	7.89
Open Circuit Voltage-V _{OC} (V)	36.8	36.9	37.0	37.1	37.2
Short Circuit Current-I _{SC} (A)	8.15	8.20	8.26	8.31	8.37
Encapsulated Cell Efficiency η _e (%)	15.1	15.4	15.8	16.1	16.4
Module Efficiency η _m (%)	13.4	13.7	14.1	14.4	14.7

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C)

General Data

Cell Type	6 x 6in Multicrystalline silicon, 60pcs (6x10)
Glass	High Transmission, Low Iron, Tempered Glass 0.13in
Frame	Anodized Aluminum
J-Box / Connector	1. Tyco / Tyco, IP65 2. Renhe / MC4, IP65

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	46°C (±2°C)
Temperature Coefficient of P _{MPP}	-0.45%/°C
Temperature Coefficient of V _{OC}	-0.35%/°C
Temperature Coefficient of I _{SC}	0.05%/°C

Mechanical and Packing Configuration

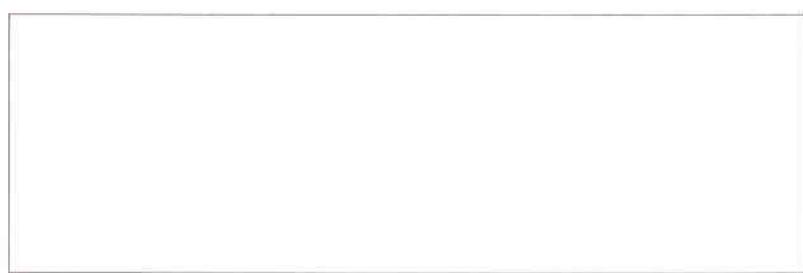
Dimensions (A x B X C)	64.96 x 39.05 x 1.57in
Installation Hole Dimensions (E x F)	38.98 x 37.05in
Cable length (G)	39.37in
Weight	43.0lb
Packing Configuration	25pcs/carton
Quantity/Pallet	1carton/pallet
Loading Capacity	650pcs/40ft(H)

Maximum Ratings

Operating Temperature	-40 ~ +85°C
Storage Temperature	-40 ~ +85°C
Maximum System Voltage	600VDC
Maximum Series Fuse	15A

Warranty

5 years manufacturing warranty
10 years warranty, 90% power output
25 years warranty, 80% power output



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
© August 2010 Trina Solar Limited. All rights reserved. Specifications included in this datasheet are subject to change without notice.

RECEIVED

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

FILE # SUP -12- = SUP - 11 - 145

Legal Owner - Carson City

PROPERTY OWNER

201 N. Carson Street, Carson City NV, 89701

MAILING ADDRESS, CITY, STATE, ZIP

775-887-2100 775-887-2286

PHONE # **FAX #**

Name of Person to Whom All Correspondence Should Be Sent

Tom Grundy

APPLICANT/AGENT

3505 Butti Way, Carson City, NV, 89701

MAILING ADDRESS, CITY, STATE ZIP

775-283-8152 775-283-7584

PHONE # **FAX #**

tgrundy@carson.org

E-MAIL ADDRESS

FOR OFFICE USE ONLY: DEC 29 2011

CCMC 18.02

**CARSON CITY
PERMITTING DIVISION**

**FEES: \$2,450.00 MAJOR
\$2,200.00 MINOR (Residential zoning
districts)**

+ noticing fee and CD containing application digital data (all to be submitted once the application is deemed complete by staff)

SUBMITTAL PACKET

- 6 Completed Application Packets
(1 Original + 7 Copies) including:
- Application Form
- Written Project Description
- Site Plan
- Building Elevation Drawings and Floor Plans
- Proposal Questionnaire With Both Questions and Answers Given
- Applicant's Acknowledgment Statement
- Documentation of Taxes Paid-to-Date (1 copy)
- Project Impact Reports (Engineering) (4 copies)

Application Reviewed and Received By:

Submittal Deadline: See attached PC 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.

Project's Assessor Parcel Number(s): 010-031-06	Street Address 3320 East Fifth St.	ZIP Code 89701
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Project's Master Plan Designation Public	Project's Current Zoning Public	Nearest Major Cross Street(s) 5th St. / Fairview
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Briefly describe your proposed project: (Use additional sheets or attachments if necessary). In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal. In accordance with Carson City Municipal Code (CCMC) Section:18.04.185, or Development Standards, Division n/a, Section n/a, a request to allow as a conditional use is as follows:

The City would like to install a ground-mount solar photovoltaic array including solar panels, inverter and solar racking system at the north east property location.

PROPERTY OWNER'S AFFIDAVIT

I, DARREN SCHULZ, 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

12/29/11

Date

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

STATE OF NEVADA
COUNTY CARSON CITY

On 12-29, 2011, DARREN SCHULZ, 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.

Karen L. White
Notary Public


KAREN L. WHITE
NOTARY PUBLIC
STATE OF NEVADA
My Appl. Exp. March 1, 2014
No. 10-14483

NOTE: If your project is located within the historic district, airport area, or downtown area, it may need to be scheduled before the Historic Resources Commission, the Airport Authority, and/or the Redevelopment Authority Citizens Committee prior to being scheduled for review by the Planning Commission. Planning personnel can help you make the above determination.

Project Description:

The Carson City Waste Water Treatment Plant Solar Photovoltaic Project consists of installing a 300 KW Solar Photovoltaic System. The construction of the Solar Photovoltaic Project includes a ground-mount solar photovoltaic array including solar panels, inverter, and solar panel racking system at the designated North East corner of the Waste Water Treatment Plant, near Fairview Dr. The solar arrays will cover roughly 1.6 acres and will be located on an abandoned and filled settlement pond that was once used by the treatment plant.

Looking south at project site from Butti Way:



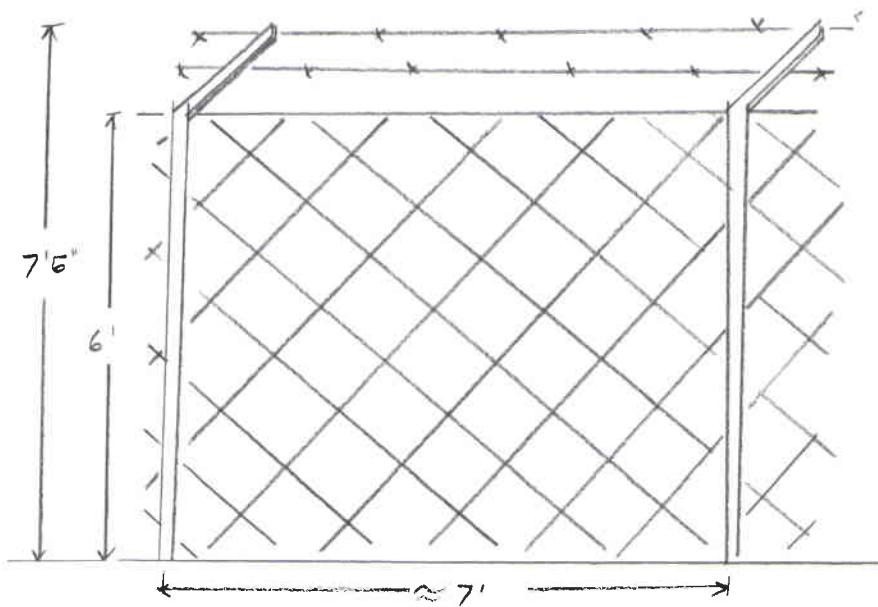
Looking north at project site from 5th Street:



Looking west at project site from Fairview:



Solar array fence to match existing waste water treatment plant fence (existing fence shown in picture)



Question 1: How will the proposed development further and be in keeping with, and not contrary to, the goals of the Master Plan Elements?

Chapter 3:

-Meet the provisions of the Growth Management Ordinance: The solar array project is a public project and Municipal Code 18.12 shall not apply as it is for residential real property.

-Use sustainable building materials and construction techniques to promote water and energy conservation: Yes, the Waste Water Treatment Plant Solar Photovoltaic Project involves the installation of a solar array field in order to capture solar energy, to supply power to the waste water treatment plant.

-Located in a priority infill development area: No.

-Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands: Yes, while there aren't additional pathway connections or easements provided with the construction of the project, all existing pathways and easements will be maintained. The project has been setback from adjacent public pathways and there is a visual screen due to a row of trees on a berm that prevents users of the adjacent pathway from seeing the proposed solar arrays.

-Protect existing site features, as appropriate, including mature trees or other character-defining features: Yes, the construction of the project will be on open land and there will not be any removal of trees or other character-defining features.

-At adjacent county boundaries or adjacent to public lands, coordinate with the applicable agency with regards to compatibility, access and amenities: Project is not located near county boundaries and does not border public property.

-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: The project is not in a mixed use area

-Meet adopted standards for transitions between non-residential and residential zoning districts: N/A

-Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms: Yes, the solar array project has been setback from the adjacent creek's floodway.

-Sited outside the primary floodplain and away from geological hazard areas or follows the required setbacks or other mitigation measures: Yes, the project is outside of the primary floodplain and away from geological hazard areas.

-Provide for levels of service consistent with the Land Use designation and adequate for the proposed development? Yes, the solar arrays will be installed on the Carson Cities property and will be used to

supply power to the treatment plant. The project will not affect the water, sewer, road improvements, sidewalks, etc..

-If located within an identified Specific Plan Area, meet the applicable policies of that SPA: The project is not located within a specific plan area.

Chapter 4:

-Provide park facilities commensurate with the demand created and consistent with the City's adopted standards: N/A, there will be no demand created due to the construction of the project.

-Consistent with the Open Space Master Plan and Carson River Master Plan: N/A

Chapter 5:

-Encourage a citywide housing mix consistent with the labor force and non-labor force populations: N/A

-Encourage the development of regional retail centers: N/A

-Encourage reuse or redevelopment of underused retail spaces: N/A

-Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol: N/A

-Promote revitalization of the Downtown core: N/A

-Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units: N/A

Chapter 6:

-Use durable, long-lasting building materials: Yes

-Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features: No

-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: No

-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: Yes, the solar arrays will not be over ten feet tall and are at a minimum of 100' from the property line.

-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: Not located in a Mixed-Use Activity Center Area

-If Located Downtown...: Not located downtown

-Incorporate a mix of housing models and densities appropriate for the project location and size: N/A

Chapter 7:

-Promote transit-supportive development patterns along major travel corridors to facilitate future transit: N/A

-Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan: N/A, project does not affect traffic in any way.

-Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan: N/A, while the project does not provide any additional pathways, it also does not hinder existing pathways on and around the property.

Question 2: Will the effect of the proposed development be detrimental to the immediate vicinity? To the general neighborhood?

A.

North: Public Works Office and Animal Shelter, both owned by the city of Carson.

East: Undeveloped property owned by the State of Nevada.

South: Undeveloped property owned by the BLM and State of Nevada.

West: Waste Water Treatment Plant and other facilities owned by the city of Carson.

B. The project is similar to the existing development around the site. Carson City's corporate yard and wastewater treatment plant surround half of the proposed project. The proposed solar arrays will not stand out in height or character compared to Carson City's facilities that consist of offices, equipment sheds, storage sheds, and waste water treatment plant buildings. Currently, there are solar panels located on multiple buildings at the corporate yard.

The project will not be contained within a building as all of the solar arrays will be spread out in a filled settlement pond. The contractor will be required to use water or some other type of dust control wherever they are working and causing a disturbance throughout the duration of the project. Once the project is complete, vehicular traffic will be very minimal and dust control will not be necessary.

The project will differ in appearance from the land located to the east and south which is undeveloped land owned by the state. Existing trees along the east side of the project will remain and provide a visual screen between viewers and the panels along Fairview and the walkway to the west of Fairview. A significant setback from the property line as well as scattered trees to the south will allow the arrays to not be obtrusive to those traveling or walking along 5th Street and through the round-about at 5th and Fairview.

C. The solar array project will not be detrimental to the use, peaceful enjoyment or development of surrounding properties and the general neighborhood. The only traffic that the arrays will create is the very occasional maintenance vehicle that will need to travel to the site so dust will not be a problem. The solar arrays will not create any noise and therefore noise pollution will not be an issue. There is a path that runs along the east side of the property that will be near the proposed location for the arrays. The arrays will not adversely affect pedestrians walking along the path because there is an existing large berm and row of trees along the top of the berm that will prevent viewers from seeing the arrays.

D. Once the project is completed there will be no noticeable increase in vehicular traffic in the area. Access to the arrays will be through the existing entrance to the waste water treatment plant and no additional lights or turn lanes will be necessary.

E. Once the project is complete, the waste water treatment plant will be able to use the energy collected from the arrays to assist in running the plant. This will benefit the people of Carson City by

making the treatment plant a more cost efficient facility and allow the city to better maintain its facilities and meet the needs of the public. The majority of the funding is provided via grants from NV Energy.

Question 3: Has sufficient consideration been exercised by the applicant in adapting the project to existing improvements in the vicinity?

- A. The project will not affect the school district or Sheriff's Office.
- B. The project will not result in the covering of a large amount of area with paving or a compacted surface. The arrays are to be built on grade beams leaving most the soil within the project area able to infiltrate water to a degree and drain as it currently does.
- C. The project does not result in any water demand.
- D. The project does not result in any sewage demand.
- E. There are not any road improvements required to accommodate the project
- F. The source of the information provided to support the conclusions and statements made in this packet came from Carson City Public Works.
- G. Outdoor lighting is not to be a part of the project.
- H. There will not be any landscaping included as a part of the project.
- I. There will be no on-site or offsite parking areas associated with the project.

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: I. S.

Date: 12/29/11

**PUBLIC WORKS
DEPARTMENT**

ADMINISTRATION
3505 Butti Way
Carson City, NV 89701-3498
Ph: 775-887-2355
Fx: 775-887-2112

FLEET SERVICES
3303 Butti Way, Building 2
Carson City, NV 89701-3498
Ph: 775-887-2356
Fx: 775-887-2258

OPERATIONS
(Water, Sewer, Wastewater,
Streets, Landfill, Environmental)
3505 Butti Way
Carson City, NV 89701-3498
Ph: 775-887-2355
Fx: 775-887-2112

**ENGINEERING/
TRANSPORTATION/
CAPITAL PROJECTS**
3505 Butti Way
Carson City, NV 89701-3498
Ph: 775-887-2355
Fx: 775-887-2112

**BUILDING and SAFETY
PERMIT CENTER**
108 E. Proctor Street
Carson City, NV 89701-4240
Ph: 775-887-2310
Fx: 775-887-2202

PLANNING
108 E. Proctor Street
Carson City, NV 89701-4240
Ph: 775-887-2180
Fx: 775-887-2278

CARSON CITY NEVADA

Consolidated Municipality and State Capital



MEMORANDUM

Date: December 23, 2011
To: Jennifer Pruitt, Principal Planner
From: Tom Grundy, P.E., Senior Project Manager
Subject: Waste Water Treatment Plant Solar Array Project
Project Impact Report

Municipal Water System

The project will not connect to the municipal water system, therefore no impact to the municipal water system is anticipated.

Municipal Sewer System

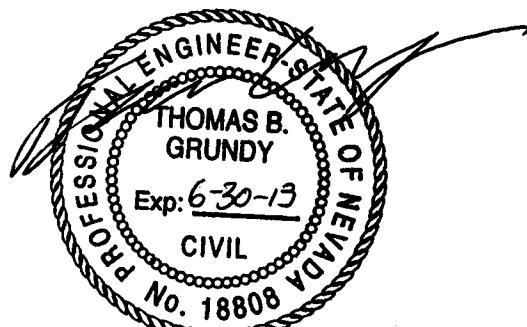
The project will not connect to the municipal sewer system, therefore no impact to the municipal sewer system is anticipated.

Storm Drain

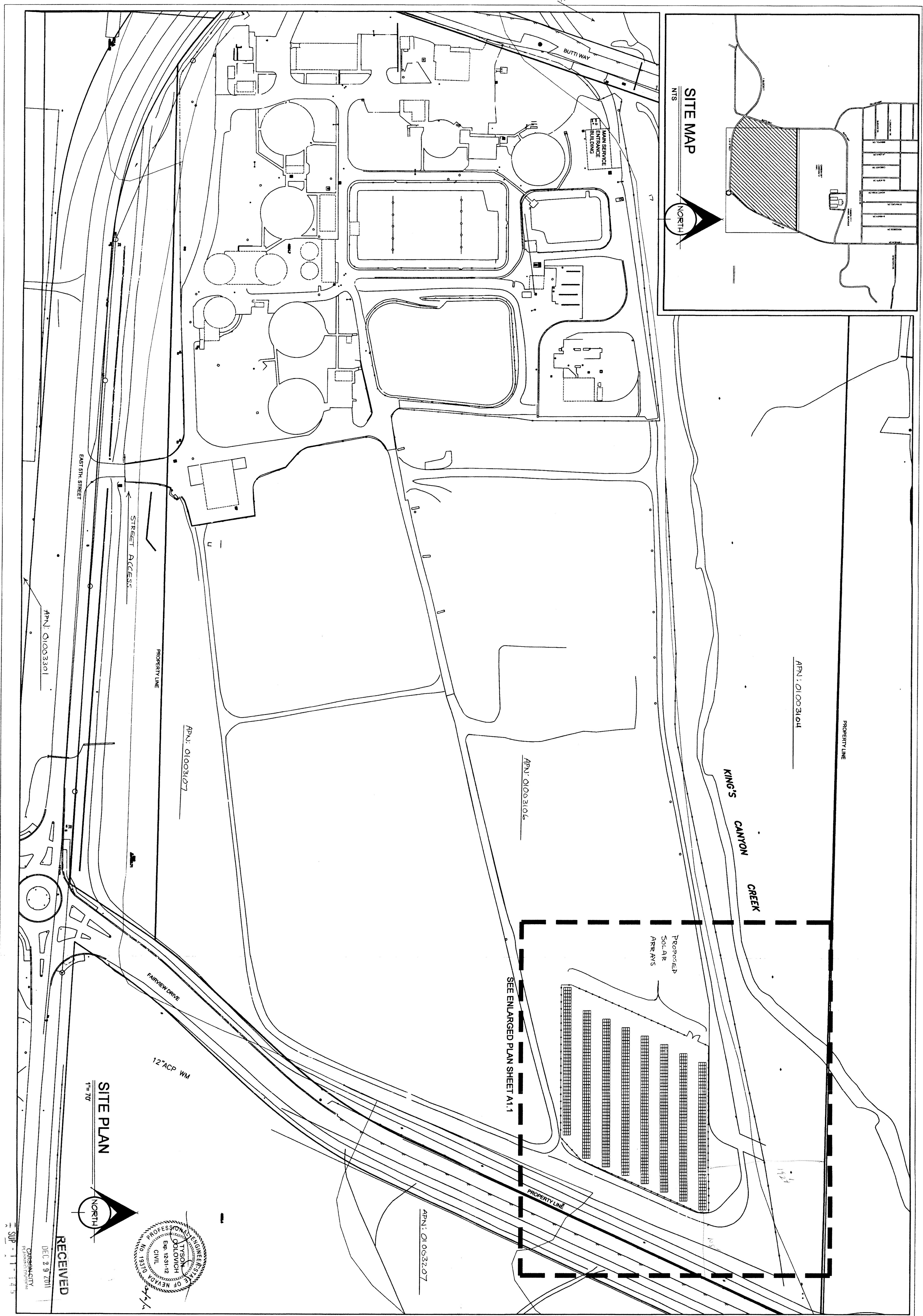
No increase in impervious area is proposed as a part of this project, therefore the quantity of runoff leaving the site is not expected to change.

Traffic

The installation of the solar arrays will not impact traffic around the site as the arrays will not create any additional traffic.



12-23-11



APPLICANT: TOM GRUNDY PHONE: 775-230-8152
3505 BULL WAY, CARSON CITY NV 89701

SPECIAL USE PERMIT