Town of
Apple Valley
California

TOWN OF APPLE VALLEY
PLANNING COMMISSION AGENDA

WEDNESDAY, May 4th, 2022

Regular Meeting 6:00 p.m.

Town Council Chambers
14955 Dale Evans Parkway
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PLANNING COMMISSION MEMBERS

Mike Arias Jr., Chairman
Jared Lanyon, Vice-Chairman
Bruce Kallen, Commissioner
B.R. “Bob” Tinsley, Commissioner

PLANNING DIVISION OFFICE: (760) 240-7000 Ext. 7200
www.AVPlanning.org

Monday - Thursday 7:30 a.m. to 5:30 p.m.
Alternating Fridays 7:30 a.m. to 4:30 p.m.

TOWN OF APPLE VALLEY
PLANNING COMMISSION AGENDA
REGULAR MEETING
WEDNESDAY May 4th, 2022 – 6:00 P.M.

IMPORTANT COVID-19 NOTICE

THIS MEETING IS BEING CONDUCTED CONSISTENT WITH CURRENT GUIDANCE ISSUED BY THE STATE OF CALIFORNIA REGARDING THE COVID-19 PANDEMIC. THE MEETING IS BROADCAST LIVE AND VIEWABLE ON FRONTIER CHANNEL 29 OR CHARTER SPECTRUM CHANNEL 186 AND LIVE STREAMED ONLINE AT APPLEVALLEY.ORG. FOR INDIVIDUALS NOT PHYSICALLY PRESENT AND STILL WISHING TO MAKE PUBLIC COMMENTS, YOU MAY COMMENT IN ONE OF TWO WAYS:

1) COMMENTS AND CONTACT INFORMATION CAN BE EMAILED TO PUBLICCOMMENT@APPLEVALLEY.ORG TO BE INCLUDED IN THE RECORD;

2) A REQUEST TO SPEAK CAN BE EMAILED TO THE SAME ADDRESS AS ABOVE AND AT THE TIME OF THE REQUESTED AGENDA ITEM, THE TOWN CLERK WILL PLACE A PHONE CALL TO THE COMMENTER AND ALLOW THEM TO SPEAK TO THE COUNCIL VIA SPEAKER PHONE DURING THE LIVE MEETING FOR UP TO THREE MINUTES.

Materials related to an item on this agenda, submitted to the Commission after distribution of the agenda packet, are available for public inspection in the Town Clerk's Office at 14955 Dale Evans Parkway, Apple Valley, CA during normal business hours. Such documents are also available on the Town of Apple Valley website at www.applevalley.org subject to staff's ability to post the documents before the meeting.

The Town of Apple Valley recognizes its obligation to provide equal access to those individuals with disabilities. Please contact the Town Clerk's Office, at (760) 240-7000, two working days prior to the scheduled meeting for any requests for reasonable accommodations.

Regular Meeting

The Regular meeting is open to the public and will begin at 6:00 p.m.

CALL TO ORDER

ROLL CALL

Commissioners: Kallen _____; Tinsley_____;

Vice-Chairman Lanyon _____; Chairman Arias_____

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS

Anyone wishing to address an item not on the agenda, or an item that is not scheduled for a public hearing at this meeting, may do so at this time. California State Law does not allow the Commission to act on items not on the agenda, except in very limited circumstances. Your concerns may be referred to staff or placed on a future agenda.

APPROVAL OF MINUTES

1. Approval of the minutes of the regular meeting of April 6th, 2022.

PUBLIC HEARING ITEMS

2. Extension of time Tentative Parcel Map No. 19575

This is a request for a one (1) year time extension of Tentative Parcel Map No. 19575 of a previously approved subdivision of eight (8) acres into eight (8) parcels (Apple Valley Gateway).(Applicant: Mr. Steven Farmer APN: 0472-232-20 & 21)

APPLICANT: Mr. Steven Farmer

LOCATION: Located at the northeast corner of Interstate 15 and Dale Evans Parkway, north of Willow Springs Road; APNs: 0472-232-20 & 21.

ENVIRONMENTAL DETERMINATION:

There is no new substantial change in the project or new information that would result in new, significant environmental impacts beyond those identified within the Mitigated Negative Declaration that was prepared for this project and adopted by the Planning Commission on April 6, 2016. Therefore, pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15162, the proposed request is not subject to further environmental review.

PREPARED BY: Amanda Malone, Assistant Planner

RECOMMENDATION: Approval

OTHER BUSINESS

3. Discussion on Electrified Fencing in Commercial Zones

PLANNING COMMISSION COMMENTS

STAFF COMMENTS

ADJOURNMENT

The Planning Commission will adjourn to its next regularly scheduled Planning Commission meeting on May 18th, 2022.

MINUTES
TOWN OF APPLE VALLEY
PLANNING COMMISSION
REGULAR MEETING
April 6, 2022

CALL TO ORDER

Chairman Arias called to order the regular meeting of the Town of Apple Valley Planning Commission at 6:00p.m.

Roll Call

Present: Commissioner Kallen; Commissioner Tinsley; Vice-Chairperson Lanyon; Chairperson Aries.

Absent: None.

Staff Present

Daniel Alcayaga, Planning Manager; Richard Pederson, Deputy Town Engineer; Albert Maldonado, Town Attorney; Kiel Mangerino, Deputy Town Clerk; Willow Waters, Planning Commission Secretary.

PLEDGE OF ALLEGIANCE: The Pledge of Allegiance was led by Chairman Aries.

PUBLIC COMMENTS

NONE

APPROVAL OF MINUTES

1. Approval of the minutes of the regular meeting of January 19, 2022.

MOTION

Motion by Commissioner Tinsley, seconded by Vice-Chairman Lanyon to approve the minutes of February 16, 2022 as amended.

Roll Call Vote
Yes: Commissioner Kallen
Commissioner Tinsley
Vice-Chairperson Lanyon
Chairman Arias
Noes: None
Abstain: None
Absent: None

Motion carried, 4-0-0-0

PUBLIC HEARING

2. Tentative Parcel Map No. 20457.

A request to approve a Tentative Parcel Map to create four parcels from 3.1 acres within the Single Family Residential (SFR) District (Applicant: Altec Engineering APN: 3087-201-03)

Chairperson Arias opened the public Hearing at 6:05 p.m.

Daniel Alcayaga, Planning Manager presented the staff report as submitted to the Planning Secretary.

There being no public comments Chairperson Arias asked the applicant if they agreed with all the conditions of approval.

Applicant stated they agreed with all the conditions of approvals.

Chairperson Arias closed the public hearing at 6:10 p.m.

MOTION

Motion by Commissioner Tinsley, seconded by Commissioner Kallen to:

1. Determine that the project is not anticipated to have any direct or indirect impact upon the environment, as it has been determined that the proposed request is Exempt from further environmental review.
2. Find the facts presented in the staff report support the required Findings for approval and adopt the Findings.
3. Approve Tentative Parcel Map No. 20457, and all conditions.
4. Direct staff to file a Notice of Exemption.

Roll Call Vote

Yes:	Commissioner Kallen
	Commissioner Tinsley
	Vice-Chairperson Lanyon
	Chairman Arias
Noes:	None
Abstain:	None
Absent:	None

Motion carried, 4-0-0-0

OTHER BUSINESS

NONE

PLANNING COMMISSION COMMENTS

Commissioner Tinsley welcomed the new Planning Secretary Willow Waters

STAFF COMMENTS

Daniel Alcayaga, Planning Manager gave a brief overview of what the Planning Department has been working on over the past month.

Motion by Commissioner Tinsley, seconded by Chairperson Arias and carried unanimously, to adjourn the meeting to the next regular Planning Commission meeting to be held March 20, 2022.

_____
Chairperson Arias

_____
Deputy Town Clerk, Kiel Mangerino

Town of Apple Valley

Planning Commission Agenda Report

Item No. 2

DATE:	May 4th, 2022
CASE NUMBER:	Extension of time for Tentative Parcel Map No. 19575.
APPLICANT:	Mr. Steven Farmer
PROPOSAL:	This is a request for a one (1) year time extension of Tentative Parcel Map No. 19575 of a previously approved subdivision of eight (8) acres into eight (8) parcels (Apple Valley Gateway).
LOCATION:	Located at the northeast corner of Interstate 15 and Dale Evans Parkway, north of Willow Springs Road; APNs: 0472-232-20 & 21.
ENVIRONMENTAL DETERMINATION:	There is no new substantial change in the project or new information that would result in new, significant environmental impacts beyond those identified within the Mitigated Negative Declaration that was prepared for this project and adopted by the Planning Commission on April 6, 2016. Therefore, pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15162, the proposed request is not subject to further environmental review.
CASE PLANNER:	Amanda Malone, Assistant Planner
RECOMMENDATION:	Approval

PROJECT SITE AND DESCRIPTION

A. Project Size:
The project will subdivide eight acres into eight (8) parcels.

B. General Plan Designations:

Project Site -	Regional Commercial (C-R)
North -	Resource Conservation (County)
South -	Regional Commercial (C-R)
East -	Regional Commercial (C-R)
West -	Resource Conservation (County)

C. Surrounding Zoning and Land Use:

Project Site-	Regional Commercial (C-R), vacant
North -	Resource Conservation (County), vacant
South -	Regional Commercial (C-R), vacant
East -	Regional Commercial (C-R), vacant
West -	Resource Conservation (County), I-15 and vacant

ANALYSIS

A. Background

On April 6, 2016, the Planning Commission reviewed and approved Tentative Parcel Map No. 19575 (TPM-19575) and associated land use permits with an expiration date of April 6, 2018. On March 21, 2018, the Commission approved an extension of time for three (3) additional years for TPM-19575. The associated land use permits were also administratively issued an extension of time for three (3) additional years. On April 7, 2021, the Commission approved an extension of time for one (1) additional year for TPM-19575. The associated land use permits were also issued an extension of time for two (2) additional years.

Table 1 shows the number of years that were originally issued for each land use permit, as well as the number of years that were extended by either the Planning Commission or administratively by the Director. The numbers in parentheses represent the number of years that the Development Code allows. The last column shows the remaining number of years that the land use permits can currently be extended.

The length of time was previously adjusted by prior staff to ensure all the land use permits expire at the same time.

It is important to note on February 8, 2022, the Council adopted an Ordinance providing all tentative maps an additional year of life, which allows the tentative parcel map to receive a total of seven (7) years, similarly to the relevant land use permits that can receive up to seven (7) years.

Table 1 - Approvals/Extensions Issued & Remaining (No. of Years)

Land Use Permit	Originally Issued 4/6/16	First Extension Issued 3/21/18	Second Extension Issued 4/7/2021	Extensions Currently Remaining
TPM-19575	2* (3)	3* (4)	1* (4)	1* (4)
DP 2015-005	2* (3)	3 (2)	2 (2)	0 (2)
SUP 2015-015	2* (3)	3 (2)	2 (2)	0 (2)
VAR 2016-001	2* (2)	3 (3)	2 (2)	0 (2)

Notes: (x) Approvals & extensions offered by the Development Code
* Indicates the Planning Commission as the reviewing authority.

B. General

The Regional Commercial (C-R) zoning district is intended for the development of a full range of retail stores, offices, and personal and business services on a scale to serve the needs of the Town and the surrounding region. This subdivision will facilitate the development of a commercial center.

The Planning Commission reviewed and approved Tentative Parcel Map No. 19575 together with Development Permit No. 2015-005, Special Use Permit No. 2015-015 and Variance No. 2016-001. The proposal includes a 43,000 square foot hotel, two (2) gas stations, a sit-down restaurant, three (3) drive-through restaurants and two (2) pads containing buildings with leased space not yet identified. The proposed map will create eight (8) commercial lots ranging from 0.6-acres to 2.6-acres. Each parcel is designed to accommodate the required amount of on-site parking for each identified use. As with the original project approval, the Conditions of Approval are based upon the entire development proposal.

There are very few modifications to the recommended Conditions of Approval. For the Commission's convenience, staff has included the Conditions of Approval from April 7th, 2021, with recommended substantive modifications in ~~strikeout~~ (deletions) and underline (additions).

C. Environmental Assessment:

There is no new substantial change in the project or new information that would result in new, significant environmental impacts beyond those identified within the Mitigated Negative Declaration that was prepared for this project and adopted by the

Planning Commission on April 6, 2016. Therefore, pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15162, the proposed request is not subject to further environmental review.

D. Noticing:

The Notice of Public Hearing for Extension of Time for Tentative Parcel Map No. 19575 was published in the Valley Wide Newspaper, with notices mailed to all property owners within a 500-foot radius, on April 19, 2022.

E. Findings:

a. Tentative Parcel Map

As required under Section 9.71.040 (A5) of the Development Code, prior to approval of a Tentative Parcel Map, the Planning Commission must make the following Findings:

1. The proposed Subdivision, together with the provisions for its design and improvement, is consistent with the General Plan and any applicable Specific Plan. The proposed subdivision or land use is compatible with the objectives, policies, general land uses, and programs specified in the General Plan and any applicable Specific Plan (Subdivision Map Act 66473.5).

   Comment: The project is a proposal to subdivide approximately 8.7- acres into eight (8) parcels that meet the Development Code Table 9.35.040-A criteria for minimum lot size, for lots within the Regional Commercial District that are part of an approved Development Permit. The property has a General Plan land use designation of Regional Commercial (C-R) and, by size, shape, and configuration, has the ability to be developed in a manner consistent with the General Plan Land Use Element and zoning designations. The project is vacant, and the surrounding properties are vacant, and the site and surrounding properties are designated Regional Commercial (C-R) designation in the town and Rural Commercial to the north in the County.

2. The Planning Commission has considered the effects of its action upon the housing needs of the region and has balanced these needs against the public service needs of its residents and available fiscal and environmental resources (Subdivision Map Act Section 66412.3).

   Comment: The proposal consists of a land subdivision within the Regional Commercial (C-R) zoning designation. No houses are being removed, and housing needs will not be negatively impacted. The proposed subdivision will allow the property owner to develop the proposed center in a manner that is consistent with the Town's General Plan Goals and Objectives to promote commercial development.

3. The design of the subdivision provides, to the extent feasible, for the future passive or natural heating or cooling opportunities in the subdivision.

   Comment: The commercial parcels created under this subdivision are appropriate in size to provide natural heating and cooling opportunities for development of the site. The subdivision proposal will facilitate the development of the center and will not conflict with the provisions of any adopted, applicable plan, policy or regulation. As development occurs, the individual lots are subject to the implementation of natural heating and cooling requirements pursuant to Title 24 energy requirements and the Town's Climate Action Plan.

4. The Planning Commission shall determine whether the discharge of waste from the proposed subdivision into the existing sewer system would result in a violation of the requirements as set forth in Section 13000 et seq., of the California Water Code. If the Planning Commission finds that the proposed waste discharge would result in or add to a violation of said requirements; the Planning Commission may disapprove the subdivision (Subdivision Map Act Section 66474.6).

   Comment: The project is a commercial land subdivision and is required to connect to the Town of Apple Valley's sewer system. The proposed development can be accommodated by the existing capacity of the sewer system. Applicable fees to connect to these existing infrastructure facilities is a required condition of approval. The requirement to hook up to existing sewer and wastewater lines will comply with California Water Code.

RECOMMENDATION

Based upon the information contained within this report, and any input received from the public at the hearing, it is recommended that the Planning Commission move to:

1. Find that there is no new substantial change in the project or new information that would result in new, significant environmental impacts beyond those identified within the Mitigated Negative Declaration that was prepared for this project and adopted by the Planning Commission on April 6, 2016. Therefore, pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15162, the proposed request is not subject to further environmental review.

2. Find the Facts presented in the staff report support the required Findings for approval and adopt the Findings.

3. Approve a one (1)-year extension of time for Tentative Parcel Map No. 19575, subject the attached Conditions of Approval.

ATTACHMENTS:

1. Conditions of Approval
2. Map Exhibit
3. Zone Map

TOWN OF APPLE VALLEY

RECOMMENDED CONDITIONS OF APPROVAL
Development Permit No. 2014-05, SUP No. 2015-015, VAR No. 2016-01 and TPM No. 19575

Please note: Many of the suggested Conditions of Approval presented herewith are provided for informational purposes and are otherwise required by the Municipal Code. Failure to provide a Condition of Approval herein that reflects a requirement of the Municipal Code does not relieve the applicant and/or property owner from full conformance and adherence to all requirements of the Municipal Code.

Planning Division Conditions of Approval

P1. This project shall comply with the provisions of State law and the Town of Apple Valley Development Code and the General Plan. This Tentative Parcel Map No. 19575, if not exercised in conformance to any conditions, shall become void April 6, 2023. DP No. 2014-05, SUP No. 2015-015 and VAR No. 2016-01 if not exercised in conformance to any conditions, shall become void April 6, 2023. This approval becomes effective ten (10) days from the date of the decision unless an appeal is filed as stated in the Town's Development Code, Section 9.03.0180.

P2. The applicant shall defend, at its sole expense (with attorneys approved by the Town), hold harmless and indemnify the Town, its agents, officers and employees, against any action brought against the Town, its agents, officers or employees concerning the approval of this project or the implementation or performance thereof, and from any judgment, court costs and attorney's fees which the Town, its agents, officers or employees may be required to pay as a result of such action. The Town may, at its sole discretion, participate in the defense of any such action, but such participation shall not relieve the applicant of this obligation under this condition.

P3. The development shall comply with the development standards adopted after the land use permits were originally approved, including but not limited to drive-thru, parking, and fuel stations regulations.

P4. The approval of Development Permit No. 2015-005, SUP No 2015-015, TPM No. 19575, and Variance No. 2016-001 by the Planning Commission are recognized as acknowledgment of Conditions of Approval by the applicant, unless an appeal is filed in accordance with Section 9.12.250, Appeals, of the Town of Apple Valley Development Code.

P5. It is the sole responsibility of the applicant on any Permit, or other appropriate discretionary review applications for any structure to submit plans, specifications and/or illustrations with the application that will fully and accurately represent and portray the structures, facilities and appurtenances, thereto, that are to be installed or erected if approved by the Commission. Any such plans, specifications and/or illustrations that are reviewed and approved by the Planning Commission at an advertised public hearing shall accurately reflect the structures, facilities and appurtenances expected and required to be installed at the approved location without substantive deviations, modifications, alterations, adjustments or revisions of any nature.

P6. The rendering presented and approved by Planning Commission shall be anticipated and expected appearance. The Assistant Town Manager shall have the authority for minor architectural changes focusing around items such as window treatments, color combinations, and façade treatments if they are consistent with the overall appearance and intent of the center design as approved by the Planning Commission. Changes not clearly within the scope of this provision shall be submitted to the Planning Commission for consideration under a Revision to the Development Permit.

P7. Any protected desert plants or discovered Joshua Tree pups impacted by development are subject to the regulations specified in Section 9.76.020 (Plant Protection and Management) of the Development Code.

P8. Final landscape and irrigation plans shall be submitted and approved prior to building permit issuance and installed prior to issuance of occupancy permits, subject to approval by the Planning Division.

P9. Landscaping shall be installed with appropriate combinations of drought-tolerant trees, shrubs, and ground cover, consistent with Chapter 9.75, Water Conservation Landscape Regulations, of this Code.

P10. All front building setbacks and street right-of-way areas located between on-site improvements and the back of existing or future public sidewalks or street curbs, except needed access driveways, shall be fully landscaped.

P11. All required and installed landscaping shall incorporate and maintain a functioning irrigation system, and said landscaping shall be maintained in a neat, orderly, disease and weed-free manner at all times.

P12. All on-site, circulation aisle ways, landscaping and amenity's improvements shall be constructed as part of the first phase and prior to recordation of the Final Map whichever comes first, and the undeveloped pad areas of the remaining phases shall be hydro seeded, or another form of permanent dust control treatment applied to pad areas.

P13. All slopes over three (3) feet in height shall be landscaped and irrigated according to Town's standards.

P14. Final landscape and irrigation plans shall be submitted and installed prior to issuance of occupancy permits, subject to approval by the Planning Division. A report from a licensed landscape architect shall be provided describing the types of trees proposed and their ability to sustain and grow within the high desert climate. In addition, this report shall

provide a water budget that complies with the Town of Apple Valley Landscape Irrigation Ordinance and State of California's Water Efficiency Landscape Ordinance.

P15. The minimum amount of trees within the center shall be at least twenty (20) percent of the required trees be twenty-four (24)-inch box size specimen. At least one-half of the accent trees located in the areas of the entrances to the site shall be a minimum of thirty-six (36)-inch box size specimen.

P16. Required parking spaces shall be provided for the handicapped in accordance with Town's standards and in accordance with Title 24 of the California Administrative Code. The handicapped spaces shall be located as close as practical to the entrance of the center. Each space must be provided with access ramps and clearly marked in accordance with Title 24 of the California Administrative Code.

P17. Parking requirements shall be met and be in compliance with Town's standards. All parking stalls shall be clearly striped and permanently maintained with double or hairpin lines.

P18. Lighting fixtures throughout the site shall be of a type and be located in such a manner that no light or reflected glare is directed off-site and shall provide that no light is directed above a horizontal plane passing through the bottom of the fixture. All glare shall be directed to the site and away from adjacent properties.

P19. Light standards shall blend architecturally with buildings, pedestrian areas and other hardscape elements.

P20. Plans shall reflect the deletion of the cloth awnings, and replaced with either metal or wood trellis louver style awnings, all building, elevation and other corresponding and related plans shall reflect this condition at plan check.

P21. Walls and fences shall comply with the height and setback requirements of the Development Code.

P22. Any equipment, whether on the roof, side of the structure or ground, shall be screened from public view from adjacent property or from a public right-of-way. The method of screening shall be integrated into the architectural design of the building and/or landscaping.

P23. Prior to the issuance of building permits, the applicant shall provide the Planning Division with a copy of the subdivision in an electronic format compatible with the Town's current technology.

P24. Prior to final map or first building permit, a reciprocal vehicular and pedestrian ingress, egress, and parking easement shall be recorded. Proof of recordation shall be provided.

P25. Bricks, pavers or decorative stamped concrete shall be used to accent and highlight street entries, main travel lanes and pedestrian walkways in parking areas or focal areas.

P26. All front building setbacks and street right-of-way areas located between on-site improvements and the back of existing or future public sidewalks or street curbs, except needed access driveways, shall be fully landscaped.

P27. The height of any architectural element/feature shall “not” exceed a height of forty-five (45) feet. All building, elevation and other corresponding and related plans shall reflect this condition at plan check and confirmed by staff on final field inspection.

P28. All litter shall be removed from the exterior area around the premises including adjacent public sidewalk areas and parking areas no less frequently than once each day that the business is open.

P29. The premises shall be maintained in a clean, weed-free and landscaping shall be maintained in a disease-free manner at all times.

P30. The applicant will need to submit a Sign Program before any issuance of a sign permit.

P31. A combination of a low decorative wall and/or landscape berm shall provide a buffer of the drive-through lanes and windows, outdoor pedestrian seating and plaza areas that are adjacent to public right-of-ways, drive aisles, and parking lot which front along Willow Springs Road. Such areas shall include a trellis feature or other cover structures over the drive-through lane, and pedestrian plaza areas that are adjacent to the building.

P32. All shall be in compliance with the approved Sign Program (submitted at a future date) and shall have a separate permit and are subject to final approval by the Town Planning Division.

P33. Variance No. 2016-001 allows a fifteen (15)-foot rear yard encroachment for the 1.2 acre parcel east of Willow Springs Road.

P34. The approval of Special Use Permit No. 2015-015, authorize drive-through uses for Pad(s) B, C, D E, F and the parcel east of Willow Springs Road. Pads C, and D are approved for gas stations with convenience store.

P35. Per Section 9.35.090 of the Development Code regarding trash enclosures, all standards and design criteria all trash enclosures shall be designed per the Town's regulations.

P36. Biological Resources

BIO-1 **-** If any sensitive species are observed on the property during future development activities, CDFW and USFWS (as applicable) shall be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the "take" of any special status species.

BIO-2 **-** A pre-construction survey shall be completed by a qualified biologist within 7 days of the initiation of any earth moving activity on the site. The pre-construction survey shall include an intensive site survey for desert tortoise, burrowing owl and migratory birds. Should any affected species by identified, the biologist shall include recommendations for avoidance in the report.

P37. Cultural Resources

CR-1 **-** If buried cultural materials are discovered during earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archeologist can evaluate the nature and significance of the finds. In the event that earth moving activities

uncover human remains, all earth moving shall stop. The contractor shall immediately notify the Town and the County Coroner. The Coroner shall determine whether the remains are prehistoric, historic or modern-day. Should the remains be prehistoric, the Coroner shall be required to make Tribal contact, and the disposition of the remains shall be undertaken consistent with PRC 5097.98. The Coroner shall be responsible for determining when earth moving activities can resume.

P38. Noise
N-1: - A noise study shall be prepared prior to the issuance of any building permit for the hotel to determine the appropriate sound attenuating measures necessary to ensure interior noise levels comply with the Development Code and General Plan Noise Element.

Engineering Division Conditions of Approval

EC1. Prior to issuance of a grading permit, a final drainage plan with street layouts shall be submitted for review and approval by the Town Engineer showing provisions for receiving and conducting offsite and onsite tributary drainage flows around or through the site in a manner, which will not adversely affect adjacent or downstream properties. This plan shall consider retaining onsite drainage flows from a 100 year design storm.

EC2. Street improvement plans shall be submitted to the Town Engineer for review and approval.

EC3. All streets abutting the development shall be improved a minimum with curb and gutter and sidewalk on the development side.

EC4. Willow Springs Road shall be improved to the Town's full-width Commercial Road standards with a Two-way left-turn lane and sidewalks as approved by the Town Engineer, from Dale Evans Parkway to the north boundary of the project.

EC5. The west leg (eastbound) of Dale Evans Parkway at the intersection of Willow Springs Road shall be widened to accommodate a 100-ft left-turn lane. The east leg (westbound) of Dale Evans Parkway shall be widened to accommodate a 200-foot right turn lane. The north leg, Willow Springs Road, at Dale Evans Parkway (southbound) shall be widened to provide a 150-foot left-turn lane, a through lane and a 150-foot right turn lane.

EC6. Prior to Final Map approval, a sixty-six 66-ft full-width road dedication along Willow Springs Road within the property shall be granted to the Town of Apple Valley. Willow Springs Road along the boundary of the project, a minimum half–width of forty-three (43) feet (thirty-three (33) feet half-width, plus ten (10) feet) road dedicated shall be granted to the Town of Apple Valley.

EC7. During the grading of the roads, soil's testing of the road sub grades by a qualified soil's engineering firm shall be performed to determine appropriate structural road section. Minimum asphalt concrete thickness for all streets shall be 0.33 ft.

EC8. All required improvements shall be bonded in accordance with Town Development Code unless constructed and approved prior to approval and recordation on the Final Map.

EC9. An encroachment permit shall be obtained from the Town prior to performing any work in any public right of way.

EC10. Final improvement plans and profiles shall indicate the location of any existing utility, which would affect construction and shall provide for its relocation at no cost to the Town.

EC11. A final grading plan shall be submitted to the Town Engineer prior to issuance of a grading permit for review and approval. A grading permit shall not be issued until street improvement plans have been submitted to the Town Engineer for review and substantial completion of the street plans has been attained as determined by the Town Engineer.

EC12. Prior to Town's acceptance of the Final Map, Subdivider shall present evidence to the Town Engineer whom he has made a reasonable effort to obtain a non-interference letter from any utility company that may have rights of easement within the property boundaries.

EC13. Utility lines shall be placed underground in accordance with the requirements of the Town.

EC14. The developer shall make a good-faith effort to acquire the required off-site property interests, and if he or she should fail to do so, the developer shall at least 120 days prior to submittal of the final map for approval, enter into an agreement to complete the improvements pursuant to Government Code Section 66462 at such time as the Town acquires the property interests required for the improvements. Such agreement shall provide for payment by the developer of all costs incurred by Town to acquire the off-site property interests required in connection with the subdivision. Security for a portion of these costs shall be in the form of a cash deposit in the amount given in an appraisal report obtained by the developer, at the developer's cost. The appraiser shall have been approved by the Town prior to commencement of the appraisal. Additional security may be required as recommended by the Town Engineer and Town Attorney.

EC15. Traffic impact fees adopted by the Town shall be paid by the developer.

EC16. Any developer fees, including but not limited to drainage fees shall be paid by the developer as per Town's enactment.

EC17. Any required street striping shall be thermoplastic as approved by the Town Engineer.

EC18. A fair share contribution for a future traffic signal at the intersection of Dale Evans Parkway and Willow Springs Road shall be paid prior to final occupancy.

EC19. In the event that an applicant/developer chooses to seek Council approval of the Final Map prior to completion of the required improvements, an "Agreement for Construction of Improvements" shall be required. In accordance with the California Labor Code, any such Agreement will contain a statement advising the developer that certain types of improvements will constitute a public project as defined in California Labor Code, Sections 1720, and following, and shall be performed as a public work, including, without limitation, compliance with all prevailing wage requirements.

Building and Safety Division Conditions of Approval

B1. An engineered grading report, including soil's report shall be submitted to and approved by the Building Official prior to recordation of the final map or issuance of permits for grading in excess of 1000 cubic yards.

B2. Grading and drainage plans, including a soil's report must be submitted to and approved by the Building Department and Engineering Department prior to grading permit issuance.

B3. Submit plans, engineering and obtain permits for all structures, retaining walls, and signs.

B4. A pre-construction permit and inspection are required prior to any land disturbing activity to verify requirements for erosion control; flood hazards native plant protection and desert tortoise habitat.

B5. A Notice of Intent (NOI) and a Storm Water Prevention Plan (SWPP) must be submitted to and approved by the Engineering and Building Departments prior to issuance of a grading permit and or any land disturbance.

B6. All utilities shall be placed underground in compliance with Town Ordinance No. 89.

B7. All cross-lot drainage requires easements and may require improvements at the time of development.

B8. Comply with State of California Disability Access requirements.

B9. A pre-grading meeting is required prior to beginning any land disturbance. This meeting will include the Building Inspector, General Contractor, Grading Contractor, soil's technician and any other parties required to be present during the grading process such as Biologist, Paleontologist.

B10. A dust palliative or hydro seed will be required on those portions of the site graded but not constructed (phased construction).

B11. Page two (2) of the submitted building plans will be the conditions of approval.

B12. Construction must comply with ~~2016~~ 2019 California Building Codes.

B13. Best Managements Practices (BMP's) are required for the site during construction.

B14. Provide Water Quality Management Plan (WQMP) or Alternative Compliance Plan.

Environmental & Transit Services Conditions of Approval

ET1. The project must provide adequate areas for collecting and loading recyclable materials in compliance with AB 341. The trash enclosure must comply with the newly adopted recycling standards.

Public Resource Code Section 42910-42912

ET2. The developer shall complete and submit a Waste Management Plan ("WMP"), on a WMP form approved by the Town for this purpose as part of the application packet for the building or demolition permit. The completed WMP shall indicate all of the following:

(1) The estimated volume or weight of project C&D debris to be generated;

(2) The estimated volume or weight of such materials that can feasibly be diverted via reuse or recycling;

(3) The vendor or facility that the Developer proposes to use to collect or receive that material; and

(4) The estimated volume or weight of C&D materials that will be landfill.

Town of Apple Valley Municipal Code Section 8.19.020(a)

ET3. Compliance with Condition of Approval No. ER2 shall be met by any of the following:

(1) Contract for hauling services with Town's franchise hauler, with all Project debris delivered to San Bernardino County self-haul landfill diversion program, provided the diversion program is currently operating; and provide acceptable proof of recycling to the Town in the form of receipts and/or weigh tickets, in conformance with the WMP.

(2) Self-haul all Project debris to San Bernardino County self-haul landfill diversion program, provided the diversion program is currently operating; and provide acceptable proof of recycling to the Town in the form of receipts and/or weigh tickets, in conformance with the WMP.

(3) Self-haul all Project debris to a construction material recycling facility, and provide acceptable proof of recycling to the Town in the form of receipts and/or weigh tickets, in conformance with the WMP.

(4) Contract with a construction site cleanup company to recycle at least 50% of the Project construction debris, and provide acceptable proof of recycling to the Town in the form of receipts and/or weigh tickets, in conformance with the WMP.

Town of Apple Valley Municipal Code Section 8.19.030

ET4. Prior to issuance of Certificate of Occupancy, the developer shall submit to the WMP Compliance Official documentation proving that it has met the Diversion Requirement for the Project. The Diversion Requirement shall be that the developer has diverted at least ~~fifty (50~~) sixty-five (65) percent of the total C&D debris generated by the Project via reuse or recycling. This documentation shall include all of the following:

(1) Receipts from the vendor or facility that collected or received each material showing the actual weight or volume of that material;

(2) A copy of the previously submitted WMP for the Project adding the actual volume or weight of each material diverted and landfill;

(3) Any additional information the Developer believes is relevant to determining its efforts to comply in good faith with this Chapter 8.19.

Town of Apple Valley Municipal Code Section 8.19.050

The developer shall make reasonable efforts to ensure that all C&D debris diverted or landfilled are measured and recorded using the most accurate method of measurement available. To the extent practical, all C&D debris shall be weighed by measurement on scales. Such scales shall be in compliance with all regulatory requirements for accuracy and maintenance. For C&D debris for which weighing is not practical due to small size or

other considerations, a volumetric measurement shall be used. For conversion of volumetric measurements to weight, the developer shall use the Standardized Conversion Rates approved by the Town for this purpose.

Public Work Division Condition of Approval

~~PW1. A sewer feasibility study is required to determine how public sewer collection can be provided by the Town of Apple Valley. Contact the Apple Valley Public Works Department (760-240-7000 ext. 7500) to determine procedure and costs associated with completing said study.~~

PW~~2~~ 1. ~~Sewage disposal shall be by connection to the Town of Apple Valley sewer system. Financial arrangements, plans and improvement agreements must be approved by the Town of Apple Valley Public Works Department.~~ Sewage disposal shall be by connection to the Town of Apple Valley sewer system. Plans must be approved by the Town of Apple Valley Public Works Department.

~~PW3. Buy-in fees will be required prior to Building Permit / Recordation. Contact the Public Works Department for costs associated with said fees.~~

P~~W4~~ 2. Sewer connection fees required.

PW~~5~~ 3. Sewer development impact fees required.

~~PW6. A grease interceptor with minimum capacity of 750 gallons shall be required for all floor drains and service sinks, and all other receptors of grease and oil-bearing wastes~~.

PW~~7~~ 4. ~~Submit mylars along with three sets of approved plans upon completion of plan check. In addition, the plans must be provided in an electronic format of the Town's choosing. These requirements are the same for the approved plans and the As-Built plans.~~ Submit mylars along with three sets of As-Built plans upon completion of the sewer extension. In addition, the plans must be provided in an electronic format of the Town's choosing.

Apple Valley Fire Protection District Conditions of Approval

FD1. The above referenced project is protected by the Apple Valley Fire Protection District. Prior to construction occurring on any parcel, the owner shall contact the Fire District for verification of current fire protection development requirements.

FD2. All new construction shall comply with applicable sections of the California Fire Code, California Building Code, and other statutes, ordinances, rules, and regulations regarding fires and fire prevention adopted by the State, County, or Apple Valley Fire Protection District.

FD3. All combustible vegetation, such as dead shrubbery and dry grasses, shall be removed from each building site a minimum distance of thirty (30) feet from any combustible building material, including the finished structure. This does not apply to single specimens of trees, ornamental shrubbery, or similar plants, which are used as ground cover if they do not form a means of transmitting fire. California Public Resources Code, Sec. 4291

FD4. Prior to combustible construction, the development and each phase thereof, shall have two (2) points of paved access for fire and other emergency equipment, and for routes of escape which will safely handle evacuations. Each of these points of access shall provide an independent route into the area in which the development is located.

FD5. Fire lanes shall be provided with a minimum width of twenty-six (26) feet, maintained, and identified. Twenty-six (26) feet access will start at both points of ingress and continue through the site. Apple Valley Fire Protection District Ordinance 5~~5~~7

FD6. A turnaround shall be required at the end of each roadway 150 feet or more in length and shall be approved by the Fire District. Cul-de-sac length shall not exceed 1,000 feet.

Turning radius on all roads within the facility shall not be less than twenty-two (22) feet inside and minimum of forty (40) feet outside turning radius with no parking on street, or forty-seven (47) feet with parking. Road grades shall not exceed twelve percent (12) unless approved by the Chief. Apple Valley Fire Protection District Ordinance 5~~5~~7

FD7. Approved numbers or addresses shall be placed on all new and existing buildings in such a position as to be plainly visible and legible from the street or road fronting the property. The numbers shall contrast with their background.

Commercial and industrial developments shall have street addresses and location approved by the Fire District. Where the building setback exceeds 200 feet from the roadway, additional non-illuminated contrasting eighteen (18) inch numbers shall be displayed at the property entrance. When these developments have rear doors of each unit, the unit number shall be a minimum of six (6) inches and shall contrast with their background.

Apple Valley Fire Protection District, Ordinance 5~~5~~7

FD8. All buildings to be fire sprinklered as well as alarmed with smoke detection throughout.

FD9. Plans for fire protection systems designed to meet the fire flow requirements specified in the Conditions of Approval for this project shall be submitted to and approved by the Apple Valley Fire Protection District and water purveyor prior to the installation of said systems.

A. Unless otherwise approved by the Fire Chief, on-site fire protection water systems shall be designed to be looped and fed from two (2) remote points.

B. System Standards:
*Fire Flow 1,500-~~2,250~~ 3,000 <u>ESTIMATE</u> GPM @ 20 psi Residual Pressure
Duration 2 Hour(s)
Hydrant Spacing 330 Feet
<u>*If blank, flow to be determined by calculation when additional construction information is received</u>.

Install per A.V.F.P.D. Standard Series #101

The system shall be supervised and connected to an approved alarm monitoring station and provide local alarm which will give an audible signal at a protected location. Supervision to be both water flow and tamper. Sprinkler work may not commence until approved plans and permits have been issued by the Fire District.

Apple Valley Fire Protection District, Ordinance 5~~5~~7

FD10. A letter shall be furnished to the Fire District from the water purveyor stating that the required fire flow for the project can be met prior to the Formal Development Review Committee meeting.

FD11. Prior to issuance of building permit, the developer shall pay all applicable fees as identified in the Apple Valley Fire Protection District Ordinance.

FD12. A Knox Box Rapid Entry System shall be required for this project.

Apple Valley Fire Protection District Ordinance 5~~5~~7

Liberty Utilities Conditions of Approval

LU1. A water main must be extended to provide fire protection for this development in accordance with Apple Valley Fire Protection District's conditions and must comply with Rule #16 of the California Public Utilities Commission.

LU2. A water main extension contract with the developer and Liberty is required and must be in compliance with Rule #15 of the California Public Utilities Commission. A 16" diameter pipeline will need to be extended from the existing main approximately 4,000 feet away which is south of the High Desert Detention Center on Dale Evans Parkway.

LU3. The water mains and appurtenances are required to be installed in accordance with Liberty's standards and specifications.

LU4. Fire hydrants are required per Liberty standards drawings and located in accordance with Apple Valley Fire Protection District's requirements.

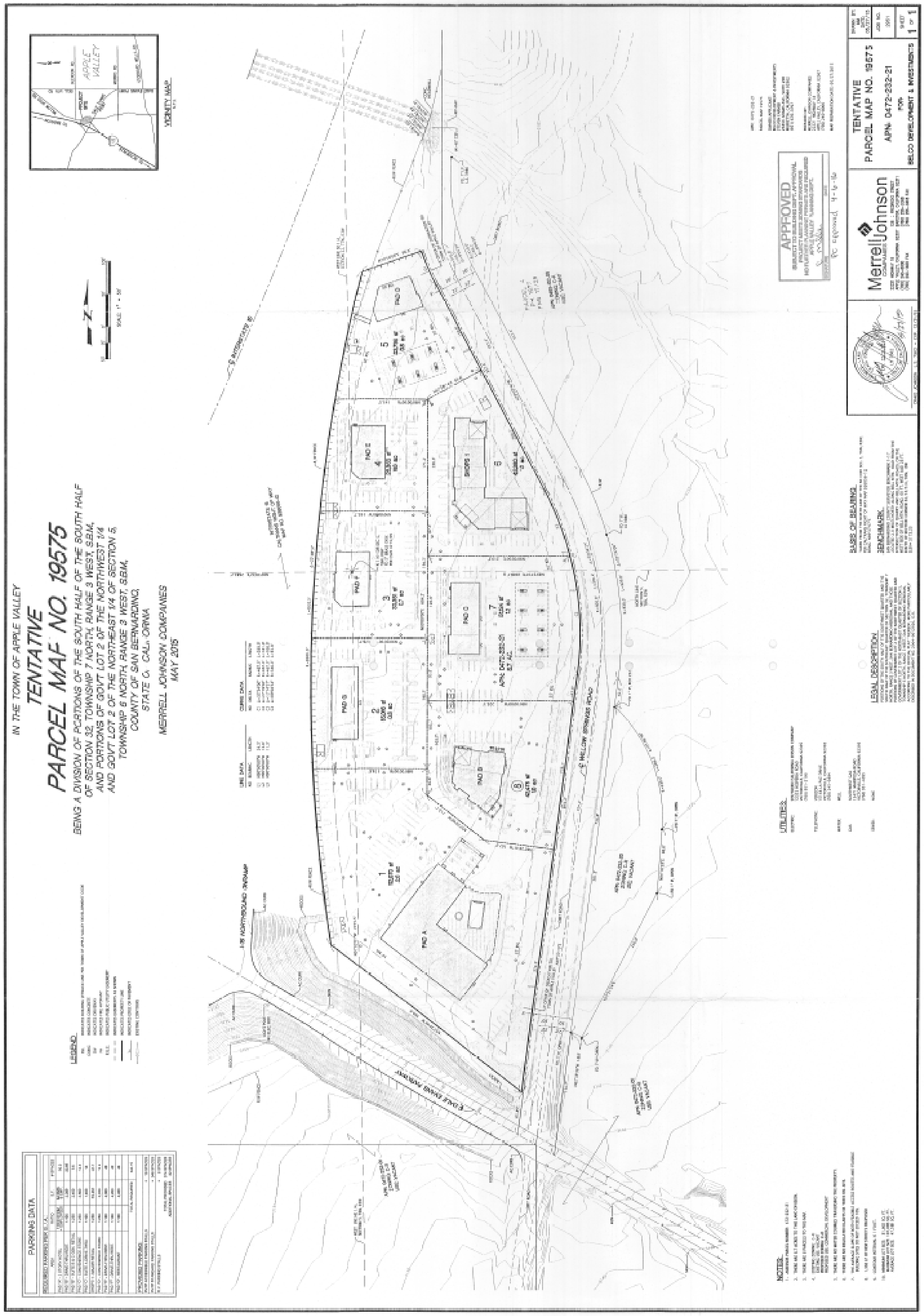
LU5. Water facilities need to be installed in dedicated public Rights-of-Ways and/or public utility easements and need to be identified and shown on water improvement plans. These dedications and/or easements are needed to install, maintain, repair, connect, operate and inspect the proposed water facilities with unobstructed vehicular access.

LU6. Domestic service lines will need to be installed from the proposed water main to the dedicated street right-of-way line for this development.

LU7. A Supply Facility Fee is required which will fund development of new wells. This fee will be collected per meter which is presently at a rate of $1000 per 5/8" equivalent meter.

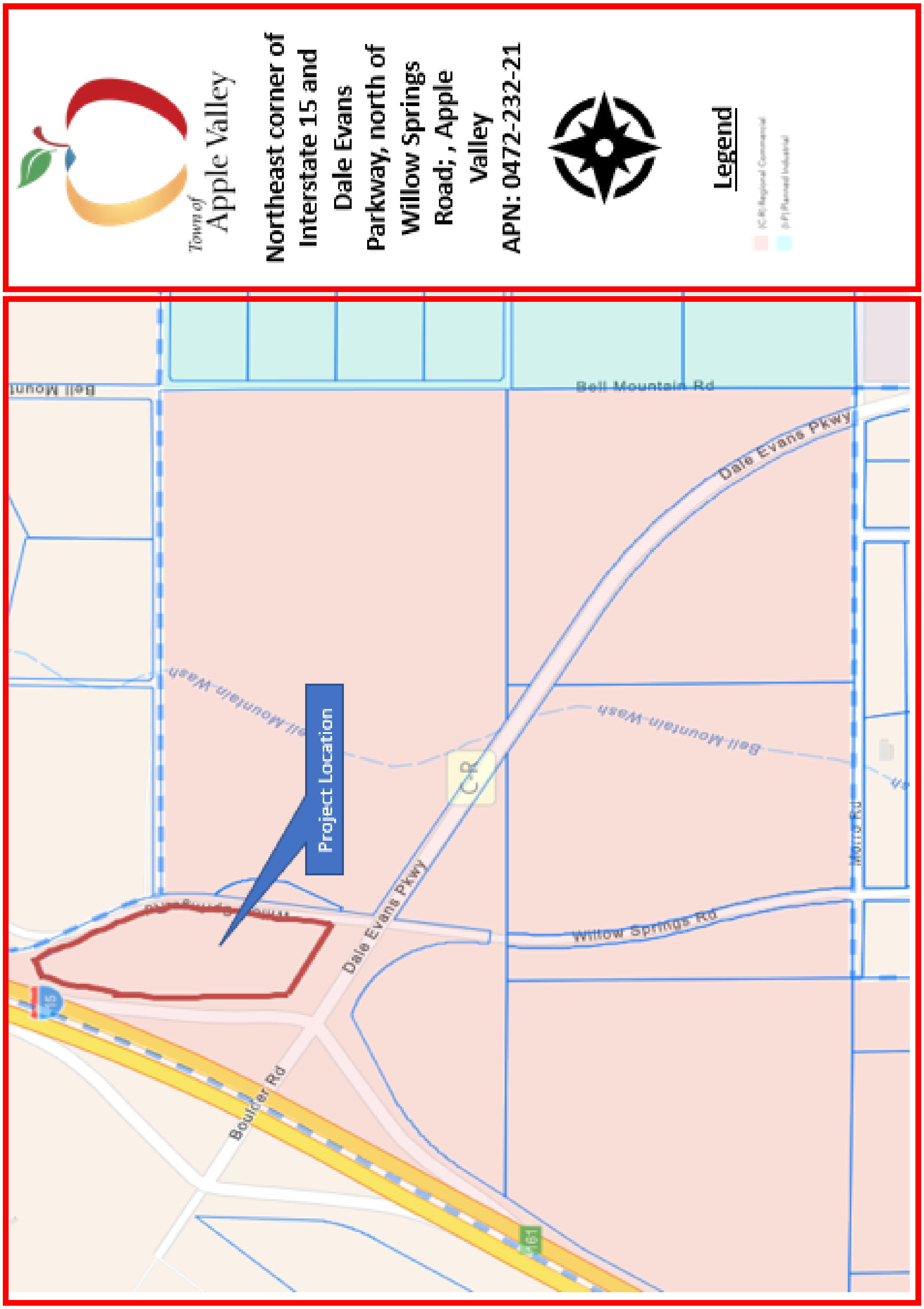
LU8. A Supplemental Water Acquisition Fee is also required in order for Liberty to have the water rights to provide water to this project. This is a onetime charge that is subject to change and is determined at the time of construction. Presently, this fee is $5,500 per residential lot of equivalent average residential water use.

End of Conditions


IN THE TOWN OF APPLE VALLEY
TENTATIVE
PARCEL MAP NO. 19575
BEING A DIVISION OF PORTIONS OF THE SOUTH HALF OF THE SOUTH HALF OF SECTION 32, TOWNSHIP 7 NORTH, RANGE 3 WEST, S.B.M., AND PORTIONS OF GOVT LOT 2 OF THE NORTHWEST 1/4 AND GOVT LOT 2 OF THE NORTHEAST 1/4 OF SECTION 5, TOWNSHIP 6 NORTH, RANGE 3 WEST, S.B.M., COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA
MERRELL JOHNSON COMPANIES
MAY 2015
PARKING DATA
VICINITY MAP
APPROVED
Merrell Johnson
TENTATIVE PARCEL MAP NO. 19575
APN: 0472-232-21
FOR
BELCO DEVELOPMENT & INVESTMENTS

Location Map
Tentative Parcel Map No. 19575 Extension of Time

Tentative Parcel Map No. 19575
Extension of Time



Town of Apple Valley California

Memorandum

DATE: May 4th, 2022

TO: Planning Commission

FROM: Daniel Alcayaga, AICP, Planning Manager

RE: Discussion on electrified fencing in commercial zones

Caliber Collision, an auto body shop located on the northwest corner of Outer Highway 18 and Quannault Road, has requested the use of electrified fencing around their parking lot used for overnight vehicle storage. Electrified fencing has not been historically permitted in the Town.

Section 9.35.080 states that barb wire, razor wire, electrification or similar barriers are only permitted for law enforcement agency vehicle impound yards.

The business has submitted background information to support the electrified fencing (see attachments).

The Commission is being asked if electrified fencing should be permitted through a development code amendment, and/or if auto body is similar to a vehicle impound yard.

9.35.080 Outdoor Storage and Use *(Amended Ord. 289, 366)*

A. **Outdoor Storage.** Outdoor storage of materials and equipment is permitted in all commercial districts and the M-U district, with the exception of the Office Professional (O-P) district, when it is clearly incidental to the permitted use on the site and is in compliance with the provisions of this Chapter. Such storage shall be located in the rear one-half of the site and screened completely from view from any adjoining property or roadway by a solid wall or fence at least six (6) feet in height, but not to exceed ten (10) feet in height. Said fence or wall shall be constructed of or finished with materials that are compatible with those of the primary building on the site. In the M-U district, outdoor storage shall be screened by a solid decorative block or stucco wall. Acceptable materials can include, masonry, stucco, solid metal, but shall not include corrugated metal. Rigid vinyl panels may also be approved by the Director, when consistent with the provisions of the Development Code. Items that are being stored outdoors shall not be stacked to a height exceeding the height of the required wall or fence.

   In the C-S and C-V districts, when on-site barriers are necessary for security, open view fencing shall be used. Open view fencing shall have pilasters of materials that complement the building architecture. Metal rails and pickets shall be sufficiently spaced to restrict trespassing. Spires or spikes or other detailing may be used to impede trespassing. Chain link with metal slats can be used in these districts as long as the slats are maintained in such a manner so the material being stored behind the fencing cannot be seen directly or indirectly through the fence. Barbed wire, razor wire, electrification or similar barriers are only permitted for law enforcement agency vehicle impound yards.

   Notwithstanding the above, the exterior storage of hay, packaged feed and related bulk feed products shall be permitted as specified in Tables 9.35.030-A 'Permitted Uses' and 9.35.040-A 'Site Development Standards' of the Town of Apple Valley Development Code.

B. **Visible Storage.** Except as may be otherwise permitted in this Chapter, there shall be no visible storage of motor vehicles (except display areas for sales or rentals), trailers, airplanes, boats, recreational vehicles, or their composite parts; loose rubbish, garbage, junk, or their receptacles; or building materials on any portion of a lot. No storage shall occur on a vacant parcel.

C. **Permitted Storage of Building Materials.** Building materials for use on the same parcel or building site may be stored on the parcel or building site during the time that a valid building permit is in effect.

D. **Other Outdoor Storage Standards**

   1. Storage shall not be permitted in the required setback areas.

   2. Storage shall not be permitted in required parking spaces or driveways and shall not at any time impede the use of any required parking space or driveway.

   3. The limits of the outdoor storage area shall be clearly delineated on the approved site plan.

E. **Cargo Containers.** In the Village Commercial (C-V) district and Service Commercial (C-S) Districts, cargo containers shall be permitted subject to Section 9.36.170.D.

(Ord. No. 490 , § 3, 12-13-2016; Ord. No. 523, §§ 3, 4, 1-14-2020 .)

State of California

CIVIL CODE

Section 835

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835. (a) As used in this chapter, "electrified security fence" means any fence, other than an electrified fence as defined in Section 17151 of the Food and Agricultural Code, that meets the following requirements:

(1) The fence is powered by an electrical energizer with both of the following output characteristics:

(A) The impulse repetition rate does not exceed 1 hertz (hz).

(B) The impulse duration does not exceed 10 milliseconds, or $^{10}/_{10000}$ of a second.

(2) The fence is used to protect and secure commercial, manufacturing, or industrial property, or property zoned under another designation, but legally authorized to be used for a commercial, manufacturing, or industrial purpose.

(b) An owner of real property may install and operate an electrified security fence on their property, subject to all of the following:

(1) The property is not located in a residential zone.

(2) The fence meets the 2006 international standards and specifications of the International Electrotechnical Commission for electric fence energizers in "International Standard IEC 60335, Part 2-76."

(3) The fence is identified by prominently placed warning signs that are legible from both sides of the fence. At a minimum, the warning signs shall meet all of the following criteria:

(A) The warning signs are placed at each gate and access point, and at intervals along the fence not exceeding 30 feet.

(B) The warning signs are adjacent to any other signs relating to chemical, radiological, or biological hazards.

(C) The warning signs are marked with a written warning or a commonly recognized symbol for shock, a written warning or a commonly recognized symbol to warn people with pacemakers, and a written warning or commonly recognized symbol about the danger of touching the fence in wet conditions.

(4) The height of the fence does not exceed 10 feet or 2 feet higher than an existing perimeter fence, whichever is greater. The electrified security fence shall be located behind a perimeter fence that is not less than 5 feet in height.

(c) The electrified security fence may interface with a monitored alarm device in a manner that enables the alarm system to transmit a signal intended to summon the business, a monitoring service, or both the business and a monitoring service, in response to an intrusion or burglary.

(d) (1) An owner of real property shall not install or operate an electrified security fence where a local ordinance prohibits the installation or operation of an electrified

security fence. A local ordinance that prohibits or regulates only the installation or operation of an electrified fence as defined in Section 17151 of the Food and Agricultural Code does not apply to an electrified security fence.

(2) If a local ordinance allows the installation and operation of an electrified security fence, the installation and operation of the fence shall meet the requirements of that ordinance and the requirements of subdivision (b).

(Amended by Stats. 2021, Ch. 148, Sec. 1. (AB 358) Effective January 1, 2022.)

AMAROK
ULTIMATE PERIMETER SECURITY

SAFETY IS A PUBLIC-PRIVATE PARTNERSHIP

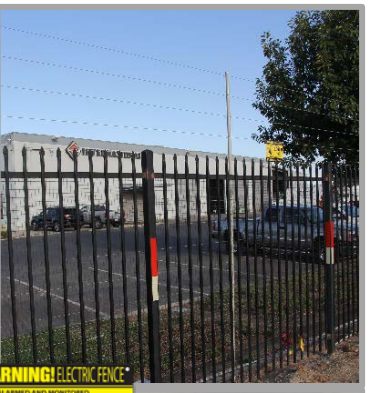
OUR MISSION

At AMAROK, we understand that citizens and businesses must do their part to help law enforcement prevent and respond to crimes. Whether that is a neighborhood watch program, cooperation with investigations, or utilizing crime prevention security solutions, we all have a duty to keep our communities safe.

As an alarm company, we have developed advanced technologies to deter, defend, and detect criminal trespass and property crime on commercial properties.

1. DETER

Deterrence begins at the perimeter with physical infrastructure and multi-lingual warning signs, discouraging a criminal from attempting a breach. Deterrence is essential to crime prevention and public safety.



2. DEFEND

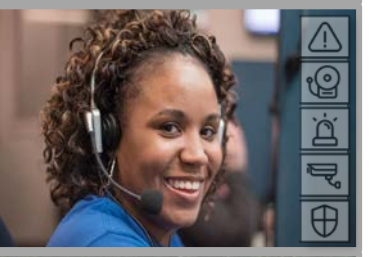
Stop unauthorized entry!

Physical Deterrent

Built ONLY inside the existing non-electrified perimeter barrier

3. DETECT

Audible & monitored alarm system which activates when trespass is detected. System includes remote access to arm/disarm.



4. DEPLOY

If an activated alarm is confirmed to be a trespasser, responders are then contacted and deployed to investigate.

ABOUT US

We provide perimeter security alarm solutions for businesses located in commercial, manufacturing, and industrial sites whose needs include the protection of outdoor assets.

- Trucking & Logistics
- Freight Distribution
- Metal Recycling
- Landscaping
- Collision & Automotive Repair
- Auto Auctions & Dismantlers
- Equipment Rental
- Truck Sales & Service

5,000+ Installations Nationwide
1,200+ Jurisdictions
500+ Installed in California

AMAROK
ULTIMATE PERIMETER SECURITY

APPROVED CRIME PREVENTION TECHNOLOGIES

STATE OF CALIFORNIA
dca
DEPARTMENT OF CONSUMER AFFAIRS

Bureau of Security and Investigative Services
P.O. Box 989002
West Sacramento, CA 95798-9002
(916) 322-4000

ALARM COMPANY OPERATOR

License No. ACO7084
Valid Until: 11/30/2021
Receipt No. 3782

ELECTRIC GUARD DOG, LLC
550 ASSEMBLY ST FL 5
COLUMBIA, SC 29201-4171

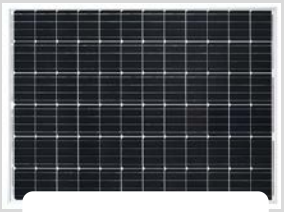
In accordance with the provisions of Division 3, Chapter 11.6 of the Business and Professions Code, the company named hereon is issued an Alarm Company Operator License Renewal.

---- NON-TRANSFERABLE ----- POST IN PUBLIC VIEW -----

WPIACO 10/2015

AMAROK owns and maintains the security system

Alarm Panel,
Keypad & Cell Unit



Solar Panel

Battery
(does not exceed
12V DC)

Energizer

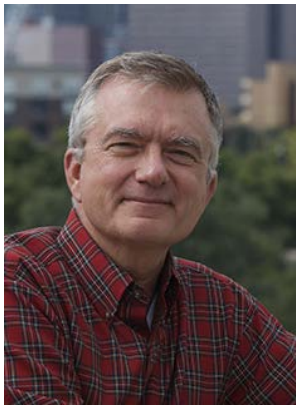
Electrified
Security Fence

MEDICALLY SAFE

Pulses: every 1.3 seconds

Duration: less than 0.0003 seconds

"The pulses emitted from AMAROK's electric fences, while unpleasant, are not dangerous."



Mark Kroll, PhD

Internationally recognized authority on electrical injury

Served on committees for ANSI standards, IEC standards, and ASTM standards

Adjunct Professor of Biomedical Engineering at the U of Minnesota and Cal Poly, San Luis Obispo

We meet safety standards set by the International Electrotechnical Commission (IEC 60335-2-76) and ASTM (F3296-19)

IEC International Electrotechnical Commission

ASTM INTERNATIONAL Standards Worldwide

OSHA®

We are certified compliant by a USA Nationally Recognized Testing Laboratory

"Nationally Recognized Testing Laboratories (NRTL) are third-party organizations recognized by OSHA (Occupational Safety and Health Administration) as having the capability to provide product safety testing and certification services..."


PENSKE
Truck Rental
PENSKE
Truck Rental


IDEALEASE

Why Are Legal Electric Security Fences Safe?

Mark W. Kroll, PhD, FACC, FHRS

24 July 2020

Electric security fences, that satisfy US and International regulations, are safe for human beings. These regulations have developed from over 100 years of experience and scientific testing.[1,2] The pulses are extremely short and thus the brief, high current is not able to affect the heart (electrocute). The best analogy is to a strong static shock which can be painful but has never injured anyone. Strong static shocks can damage electronics — which responds almost instantly — but the human body is not harmed by such brief shocks. A strong static shock can have a peak current of 30 A (amperes) but is too short to be dangerous.[3] Note that this is over 2x (twice) the peak current of an electric security fence.[4,5] The peak current is irrelevant to safety for short shocks.[6]

Question 1:

I saw on the internet that 0.1 amperes (100 mA) is dangerous and that electric fences can have a peak current of over 10 A. Is that dangerous?

Answer: No. An AC current of over 0.1 A can be dangerous to humans but only if the shock lasts about 1 second or more.[7] The AMAROK security fence pulse only lasts about 0.0001 seconds, so it is 10,000 times shorter than a danger shock.[4]

Question 2:

But still, that 10 amperes is 100 times as strong as the 100 mA danger level!

Answer: It is misleading to compare a peak current with an average current. Since the AMAROK security fence pulses only occur every 1.3 seconds, the average current is only 0.46 mA. Thus, the *average* current of an electric fence is 200 times less than the danger level. We rate AC currents by RMS (root-mean-square) which functions as an average.

Question 3:

How about wet conditions? How about children and wildlife?

Answer: The US and International Electric Fence Safety Standards assume a worst-case scenario of a barefoot child contacting the fence while standing on wet ground.[8,9] Historical cases of tragic pediatric fatalities involved continuous AC (alternating current), and not the modern short DC (direct current) pulses satisfying today's safety standards.[2,10] The same is true for wildlife.[11]

Question 4:

What if the person has a pacemaker?

Answer: For technical reasons, this does not present a risk. The cardiology literature warns of various dangers for pacemaker patients; the electric fence is not included as a danger.[12]

References:

1. Dalziel CF. Electric fences-their hazards, types, regulations, and safe application. *Transactions of the American Institute of Electrical Engineers.* 1950;69(1):8-15.
2. Whittaker. Electric shock as it pertains to the electric fence. *Underwriter's Laboratories Bulletin of Research.* 1939;14:1-56.
3. International_Electrotechnical_Commission. Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test. Vol IEC 61000-4-2: IEC.
4. Kroll M, Perkins P, Pratt H, Stuart E, Bury J, Panescu D. Safety of a High-Efficiency Electrical Fence Energizer. *Conf Proc IEEE Eng Med Biol Soc.* 2020;41:in press.
5. Kroll MW, Perkins PE, Panescu D. Electric fence standards comport with human data and AC limits. *Conf Proc IEEE Eng Med Biol Soc.* 2015;2015:1343-1348.
6. Kroll MW, Panescu D, Hirtler R, Koch M, Andrews CJ. Dosimetry for Ventricular Fibrillation Risk with Short Electrical Pulses: History and Future. . *Conf Proc IEEE Eng Med Biol Soc.* 2019;41:1788-1794.
7. Ferris LP, King BG, Spence PW, Williams HB. Effect of electric shock on the heart. *Electrical Engineering.* 1936;55(5):498-515.
8. IEC. Household and similar electrical appliances – Safety – IEC 60335-2-76: Particular requirements for electric fence energizers. *International Electrotechnical Commission.* 2006.
9. Underwriters_Laboratories. UL 69: Electric fence controllers. 2003.
10. Oregon's first death from an electric fence. *International Association of Electrical Inspectors News Bulletin.* 1940;12.
11. McAtee W. The electric fence in wildlife management. *The Journal of Wildlife Management.* 1939;3(1):1-13.
12. Santini L, Forleo GB, Santini M. Implantable devices in the electromagnetic environment. *Journal of Arrhythmia.* 2013;29(6):325-333.

Safety of a High-Efficiency Electrical Fence Energizer

Mark W. Kroll, PhD, *FIEEE*; Peter E. Perkins, MSEE, *LFIEEE*; Hugh Pratt, PhD;
Edward Stuart, *Member IEEE*; J. Bury, *Member IEEE*; Dorin Panescu, PhD, *FIEEE*

Introduction: Our primary goal was to evaluate the performance of a new high-efficiency electric fence energizer unit using resistive load changes. Our secondary goal was to test for compliance with the classical energy limits and the newer charge-based limits for output.
Methods: We tested 4 units each of the Nemtek Druid energizer with 2 channels each. We used a wide load-resistance range to cover the worst-case scenario of a barefoot child making a chest contact (400 Ω) up to an adult merely touching the fence (2 kΩ).
Results: The energy output was quite consistent between the 8 sources. Even at the lowest resistance, 400 Ω, the outputs were well below the IEC 60335-2-76 limit of 5 J/pulse. The charge delivered was also quite consistent. Even at the lowest resistance, 400 Ω, the outputs (679 ± 23 µC) were well below the proposed limits of 4 mC for short pulses.
Conclusions: The high-efficiency electric fence energizers satisfied all relevant safety limits. Charge, energy, voltage, and current outputs are consistent between channels and distinct units.

INTRODUCTION

Electric fence technology allows for economical and safe control of animals and humans as opposed to barbed or concertina wire which can cause injury. They use a painful brief shock intended to be well below the threshold for VF (ventricular fibrillation) and thus unable to electrocute a human being.[1] The traditional EFE (electric fence energizer) charged a capacitor and then dumped the capacitor energy into the primary of a transformer.[2] The secondary of the transformer then delivered its output to the electric fence wires. Such open-loop systems are affected by arcing (to vegetation or between wires) which can significantly reduce the charge delivered to the fence. Simply increasing the output is unacceptable due to safety concerns and there have been pediatric fatalities due to noncompliant fences.[3, 4] There are US and international safety standards governing EFEs.[5-7]

The traditional EFE output stages are not optimally efficient — in terms of energy and materials — due to the energy-material tradeoffs in the large capacitor and transformer output stage. The tested design (shown in Figure 1) uses diode current-steering to significantly reduce the size of the capacitor and transformer. The 30 µF energy-storage capacitor and the 16 µH series inductor give a resonant frequency of ~7 kHz or a period of ~ 60 µs. This is significantly underdamped as there is minimal resistance in the circuit (300 mΩ from PC board tracings). A 2nd higher-frequency resonant circuit is formed by the inductor and the 12 µF capacitor; this causes the 2nd peak superimposed onto the main discharge curve. The diode across the transformer primary eliminates the longer low-amplitude reverse flow of current through the transformer and so keeps the output pulse shorter in duration as well as eliminating useless energy delivery cancelling charge from the main discharge pulse. See Figure 2. Since many present EFE standards still include the 5 J/pulse energy limit, reducing the delivered energy is important for regulatory reasons. This design is able to use smaller and lighter inductors and capacitors without having the charge cancellation that would be otherwise seen. Due to the classical misunderstanding that energy causes sensation, this monopolarity feature was often not appreciated in the past.[8, 9] While charge stimulates, energy is what makes burns, and thus a hugher energy is useful for ablating vegetation shorts on an electric fence.

The design objective is to deliver ≥ 0.2 mC of charge as that is known to be disagreeable to adult humans.[8, 10-13] Another key objective is to keep the output energy < 2.5 J so that a 2-channel unit would still satisfy the 5 J total output allowed by international safety standards.[6]

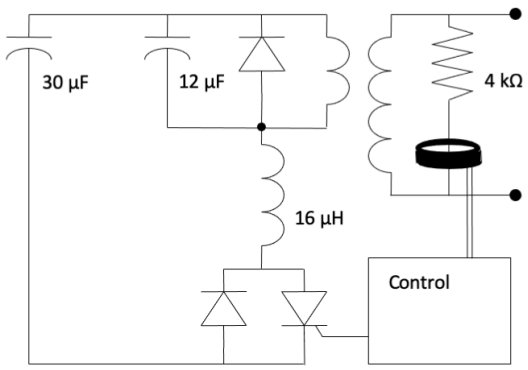


Figure 1. Ouput stage of tested energizer.

Feedback control also allows for significant energy efficiency gains. The design of a closed-loop EFE is non-trivial due to the load nonlinearities, transformer saturation, and the isolation of the high-voltages. The output load has capacitance, inductance, and transmission-line characteristics making modeling somewhat complex.[14, 15] With line distances > 1 km the input impedance of a linear electric fence approaches that of free space (377 Ω) with a reflected impedance near 0 Ω. In addition, arcing to vegetation introduces nonlinearities while

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arcing to ground (or to a return wire) can introduce negative dynamic resistance which makes traditional feedback control impossible.

We evaluated the performance of the Nemtek Druid™ units with APT (Adaptive Power Technology) whose loaded waveforms are given in Figure 2. Upon initialization, it charges the output capacitors to a level that are expected to approximately generate a 4 kV pulse after passing thru a pulse transformer. The actual voltage output is then measured, and this is used to calibrate the system and then the following pulses are delivered with peak voltages of 8.5-9.5 kV for a largely open circuit. In case of arcing, the voltage waveform is distorted from that seen in Figure 2 and the system recognizes this and reduces the peak voltage until the arcing ceases. This feature was not tested in our study.

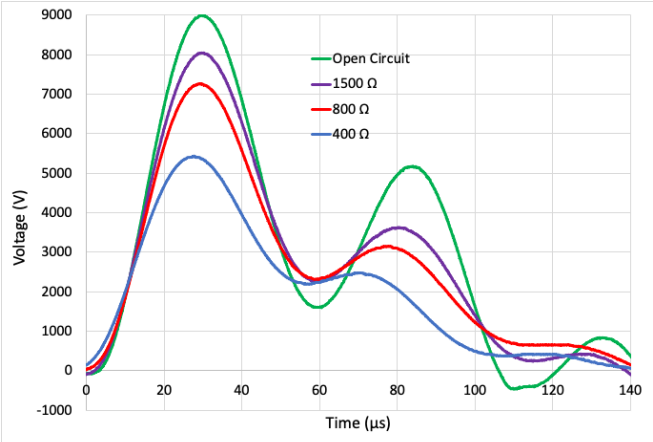

Figure 2. Typical output voltage waveforms for various loads.

For a closed-loop design a feedback signal from the energizer's output terminals is required. Although a simple resistor voltage-divider network can provide an accurate feedback signal, this is not practical due to isolation specifications which are required by the electric fence safety standards. The units tested sampled the output voltage by running it thru a high-voltage non-inductive 4 kΩ resistor. The current thru the resistor was, in turn, sampled by a current transformer (black ring in Figure 1) to provide isolated feedback to the control circuitry.

Present EFE safety standards are based on a 5-joule energy limit per pulse. However, since energy heats while charge stimulates, newer safety standards, for general applications, are now being based on the delivered charge.[16] For example, the proposed level for "low risk of fibrillation" is 4 mC. The charge is more dependent on the load resistance and thus we sought to evaluate this technology vs. the newer charge limits. We used a wide load-resistance range to cover the worst-case scenario of a barefoot child making a chest contact (400 Ω) up to an adult merely touching the fence (2 kΩ).[17]

Our primary goal was to evaluate the performance of the new high-efficiency feedback-controlled EFE units with load changes. Our secondary goal was to test for compliance with the classical energy limits and the newer charge-based limits for output.

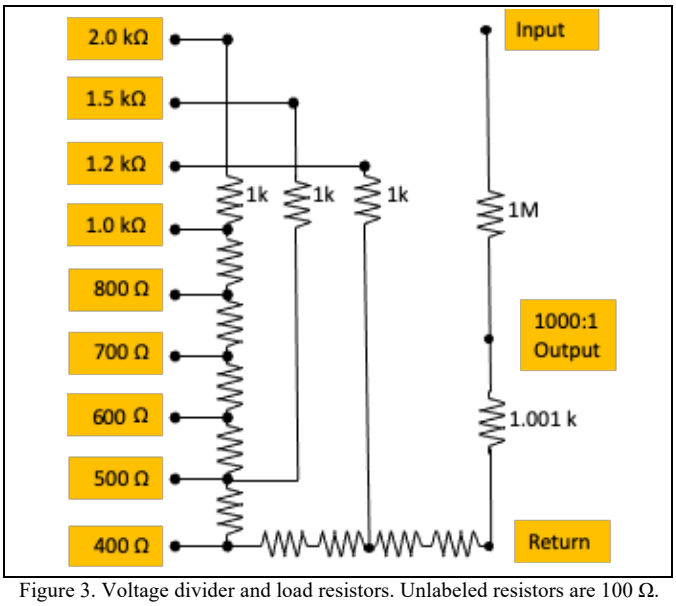

Figure 3. Voltage divider and load resistors. Unlabeled resistors are 100 Ω.

METHODS

We constructed a 1000:1 voltage divider using a 1 MΩ high-voltage low inductance Ohmite (Warrenville, Ohio, USA) MOX-3N resistor with a 30 kV pulse rating in series with 1001 Ω. The load resistance was selectable over 400, 500, 600, 700, 800, 1k, 1.2k, 1.5k, and 2 kΩ by use of the schematic shown in Figure 3. The load resistances were made up from Ohmite model OY series 100 Ω and 1 kΩ noninductive ceramic resistors rated for 20 kV and 70 J of capacitive discharge. Series trimming was done with smaller-value carbon resistors. The open circuit voltage was measured by removing the jumper going to a load resistor. Since the tested EFEs all had a 4 kΩ output resistor, the output-stage transformer was never truly operating into an open-circuit load.

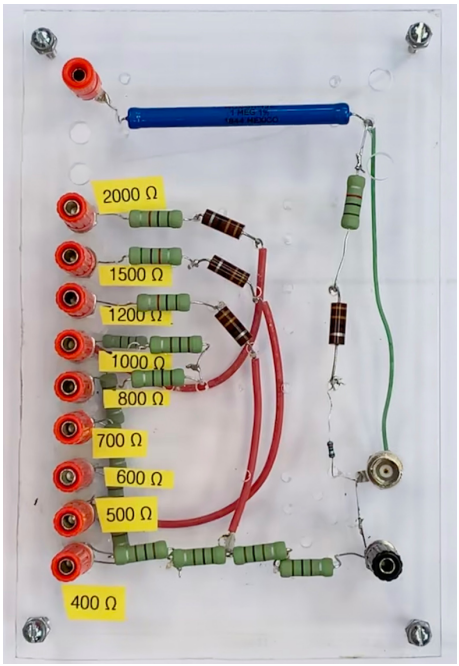

Figure 4. Voltage divider and load resistors.

All resistance values were verified to be within 1% with a Flexzion VC8145 5-digit meter which was in turn calibrated to a Vishay (0.1% 500 Ω precision resistor.) Voltage values were recorded by a calibrated Siglent SDS1202X digital storage oscilloscope sampling at 1 ns intervals.

A total of 4 Nemtek Druid™ EFE units were tested. Since each unit has 2 individual outputs, there were 8 sources tested in total. E.g. 1030/1. For determination of the peak voltage and current, the instantaneous voltages were boxcar averaged over 200 samples (200 ns duration) to reduce noise artifact.

RESULTS

The energy per pulse output was quite consistent between the 8 sources as shown in Figure 5. Even at the lowest resistance, 400 Ω, the outputs were well below the IEC 60335-2-76-limit of 5 J/pulse. At the standard test load of 500 Ω, the output was 2.23 ± 0.05 J and thus far from the 2.5 J limit ($p < 0.001$).

There is a consistent transition seen between 1 kΩ and 1.2 kΩ as the system shifts from open loop to feedback control. For loads ≤ 1.1 kΩ, the ouput voltage is limited passively by the maximum energy in the main storage capacitor.

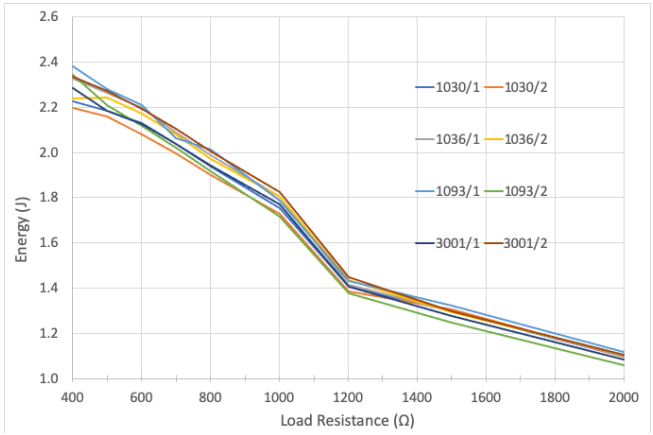

Figure 5 Energy per pulse as function of load resistance.

The charge delivered was quite consistent between the 8 sources as shown in Figure 6. Even at the lowest resistance, 400 Ω, the outputs were well below the proposed new limits of 4 mC/pulse.[16] At the standard test load of 500 Ω, the output was 0.60 ± 0.03 mC.

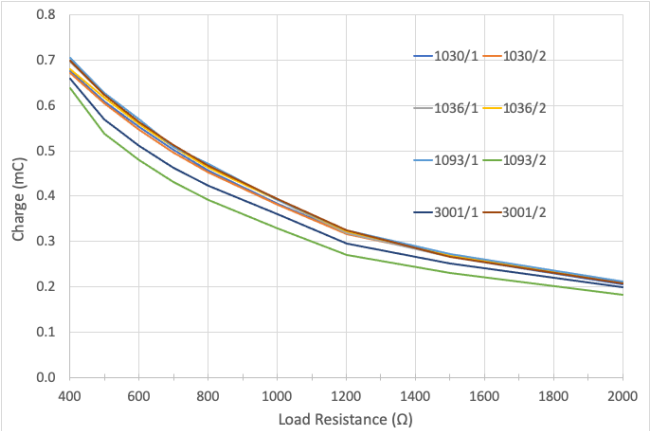

Figure 6 Charge per pulse as function of load resistance.

The peak voltage delivered was also quite consistent between the 8 sources as shown in Figure 5. None exceeded the specified 9.7 kV maximum even with an open circuit. Again, there is a consistent control transition seen between 1 kΩ and 1.2 kΩ as control shifts from passive to active feedback. The feedback adjustment converged very rapidly and appeared to settle typically within a single 2nd pulse after a load change.

Linear regression modeling found that the peak voltage was roughly modeled as an internal 9154 ± 58 V source in series with a 224 ± 54 Ω equivalent series resistance. At the standard test load of 500 Ω, the output was 5999 ± 79 V.

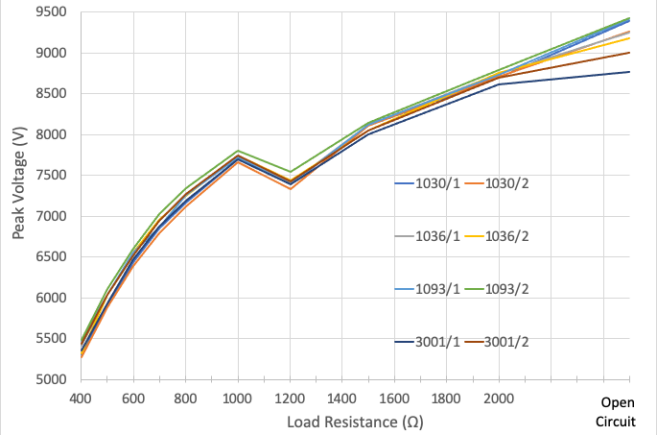

Figure 7. Peak voltage as function of load resistance.

The peak current delivered was impressively consistent between the 8 sources as shown in Figure 8. At the standard test load of 500 Ω, the output was 12.00 ± 0.16 A.

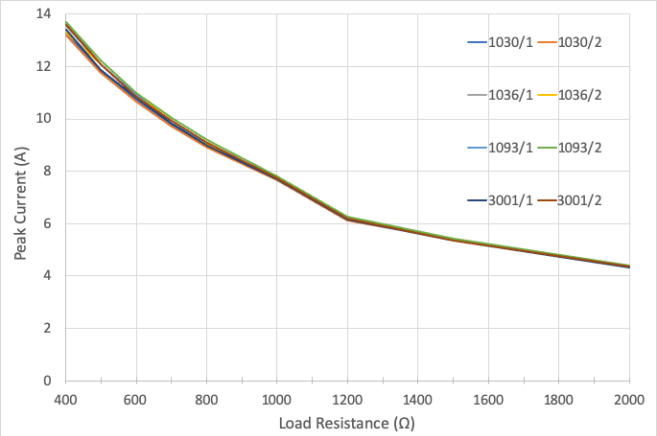

Figure 8. Peak current as function of load resistance.

DISCUSSION

We believe that this is the first paper to examine the performance and safety of advanced high-efficiency digital feedback-controlled electric fence energizers. All units tested satisfied all relevant safety limits. Charge, energy, voltage, and current outputs were consistent between both channels and distinct units.

The ubiquitous electric fence is essential to modern agriculture and has saved a great many lives by reducing the number of livestock automobile collisions.[18-22] They also provide safe protection against criminal activity. Modern safety

standards such as IEC 60335-2-76 and UL 69 have certainly played a role in this positive result.[5, 23] However, the safety standards are essentially based on energy and power (RMS current) considerations, which have limited direct relationship to cardiac effects.

Upcoming safety standards, for short pulses, will be based on the more scientific charge.[16] With great prescience, UL researcher Whittaker proposed a charge-based limit, of 4 mC, back in 1939.[24] Because of electrocutions from AC electric fences, impulse-generating electric fence energizers became very popular in the 1930. Many government agencies and standards organizations then adopted charge limits to levels deemed safe.[1] The Underwriter's Laboratories (USA) proposed 4 mC as a safe impulse.[24] The Industrial Commission of Wisconsin (a USA state important for dairy production) and the U.S. National Bureau of Standards adopted 3 mC as the safe level. Most countries adopted 3 mC as the safe level including Finland, Denmark, Great Britain, and France.[1] Sweden used a 2.5 mC level and the C.E.E (IEC predecessor) also proposed 2.5 mC.[1] The IEC 60335 standard replaced the various country standards and eventually dropped the charge-based limit in 1989 in favor of a pure-energy limit.

Thus, the international standards community once had scientifically-sound *charge-based* limits for electrical impulses. Unfortunately, this understanding was somehow lost and the impulse limits became associated with the less-relevant energy and power.[16]

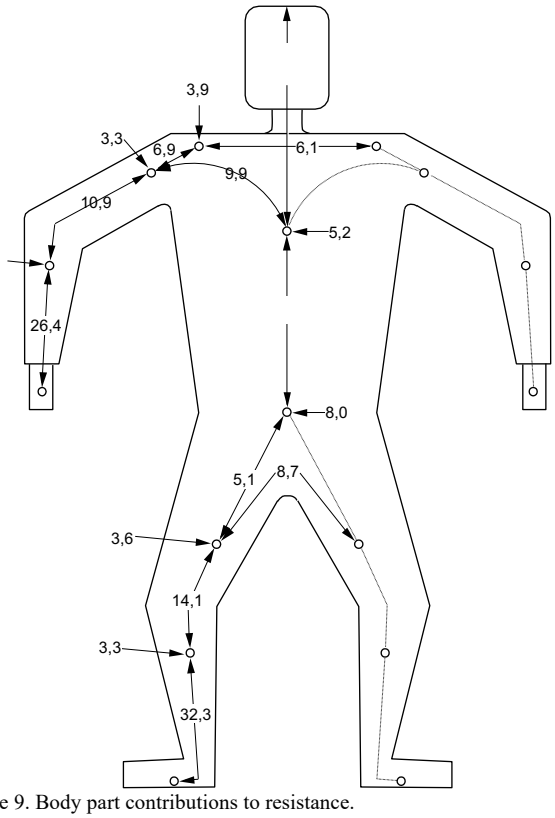

Figure 9. Body part contributions to resistance.

Based on the 37% contribution of the arm to the typical body resistance, we discounted the median 775 Ω high-voltage impedance to 488 Ω as given by our Figure 9 taken form IEC 60479-1.[6] To include the worst-case scenario of a barefoot child contacting a fence at chest height, we further deducted the 9.9% (for shoulder to center-trunk) so the resistance would be 409 Ω and thus we elected to test down to a 400 Ω load.

LIMITATIONS

We did not evaluate the performance of these units with capacitive or inductive loads. We did not evaluate the performance with long lines.

CONCLUSIONS

The digitally controlled feedback electric fence energizer tested satisfied all relevant safety limits. Charge, energy, voltage, and current outputs are consistent between channels and distinct units.

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