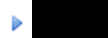




## Medical Marijuana Dispensary License Application

Department of Health, Office of Health Care Assurance

[Home \(/mmjdisp/index.html\)](#) [My Account](#) [Log Out \(/mmjdisp/logout\)](#)



Criteria 1. Ability to operate a business, including but not limited to education, knowledge, and experience

Criteria 2. Plan for operating a medical marijuana dispensary in the county for which the applicant is seeking a license, including but not limited to a timeline for opening a retail dispensing location

Criteria 3. Proof of financial stability and access to financial resources

Criteria 4. Ability to comply with the security requirements of this chapter and section 329D-7, HRS

Criteria 5. Capacity to meet the needs of qualifying patients

Criteria 6. Ability to comply with criminal background check requirements pursuant to this chapter and sections 329D-7, 329D-12, and 846-2.7, HRS

Criteria 7. Ability to comply with the requirements in this chapter and chapters 329 and 329D, HRS, for inventory tracking, security, and dispensing limits for qualifying patients

Criteria 8. Ability to maintain confidentiality of a qualifying patient's medical condition, health status, and purchases of marijuana or manufactured marijuana products

Criteria 9. Ability to conduct or contract for certified laboratory testing on marijuana and manufactured marijuana products pursuant to this chapter and sections 329D-7 and 329D-8, HRS

Criteria 10. Ability to comply with requirements for packaging, labeling, and chain of custody of products

Criteria 11. A plan for secure disposal of marijuana and manufactured marijuana products

Criteria 12. Ability to ensure product safety, in accordance with this chapter and sections 329D-8, 329D-10, 329D-11, HRS

Criteria 13. No history of having a business license revoked.

Total Merit Criteria Points Awarded to Applicant

**HELPFUL INFORMATION FOR FILLING OUT THIS FORM:**

1. You can save your work on this form by checking the 'Save my progress and resume later' box and then clicking the 'Save form and resume later' button at the bottom of each screen.  
**IMPORTANT:** Remember to do this every time you leave your application or you will lose the information you have entered.

2. To keep your information secure, remember to log out of your application each time you finish working on it.




3. Use a current version of Google Chrome or Firefox browser when completing this form.

4. Save the form every 20 minutes to avoid timing out. When entering information in a spreadsheet, save and exit the form first.

5. Do not include single or double quote marks (' or ") or more than one period (.) in your document names.

**INSTRUCTIONS FOR THE MEDICAL MARIJUANA DISPENSARY LICENSE APPLICATION**

Before applying for a medical marijuana dispensary license, applicants must acknowledge that they have read the statute and administrative rules on medical marijuana dispensary licensing. Click to be redirected to the statute and administrative rules.

Hawaii Revised Statute (HRS) 329D	 I acknowledge that I have read <a href="http://health.hawaii.gov/medicalmarijuana/wp-content/blogs.dir/93/files/2015/12/2015-329D-HRS.pdf">Chapter 329D, HRS (http://health.hawaii.gov/medicalmarijuana/wp-content/blogs.dir/93/files/2015/12/2015-329D-HRS.pdf)</a> , and I am aware of the application and licensing requirements.
Hawaii Administrative Rules (HAR) Chapter 11-850	 I acknowledge that I have read <a href="http://health.hawaii.gov/medicalmarijuana/wp-content/blogs.dir/93/files/2015/12/Dispensary-Rules-Chapter-11-850-signed-by-Gov-12-13-15.pdf">HAR, Chapter 11-850 (http://health.hawaii.gov/medicalmarijuana/wp-content/blogs.dir/93/files/2015/12/Dispensary-Rules-Chapter-11-850-signed-by-Gov-12-13-15.pdf)</a> , and I am aware of the licensing requirements.
Disclaimer:	 I understand that the use and possession of marijuana is illegal under federal law, and is illegal under State law except as provided in Chapters 329 and 329D, HRS.

**MINIMUM REQUIREMENTS**

All individual applicants and applying entities must meet the requirements listed below or the application will not be accepted. Applicants must attach proof to the online application as described in sections.

**INDIVIDUAL APPLICANT**

- \* Individual applicant shall be at least 21 years old.
- \* Shall be a legal resident of the State of Hawaii for at least five (5) uninterrupted years immediately preceding the date of the license application.
- \* Shall not have any felony convictions or any other disqualifying background history.
- \* Shall be authorized by the applying entity to submit an application for a dispensary license, and act as the primary point of contact with the department.

**APPLYING ENTITY**

- \* The applying entity must be organized under the laws of the State of Hawaii.
- \* Have a Hawaii tax identification number.
- \* Have a Department of Commerce and Consumer Affairs Business Registration Division number and suffix.
- \* Have a federal employer identification number.
- \* Not be less than fifty-one percent held by Hawaii legal residents or entities wholly controlled by Hawaii legal residents who have been legal residents for not less than five years immediately prece application was submitted.
- \* Have financial resources under its control of not less than \$1,000,000 for each license applied for, plus not less than \$100,000 for each retail dispensing location allowed under the license applied bank statements or escrow accounts, and those financial resources shall have been under the control of the applying entity for not less than ninety days immediately preceding the date the applica
- \* Be composed of owners, principals, or members, each of whom is not less than twenty-one years of age and has no felony convictions or any other disqualifying background history.

**APPLICATION FEE**

The license application fee of \$5,000 by certified check or cashier's check payable to the State of Hawaii, Department of Health, is part of the minimum requirements and must be received at Depart Medical Marijuana Dispensary Licensing, Room 337, 601 Kamokila Blvd., Kapolei, HI 96707 or be postmarked by 4:30 pm Hawaii Standard Time on the last day of the open application period Januar

Please note the application number on the check. This is found in the heading of the email confirmation you receive upon submittal, and is also visible when you view your completed application on

---

**NOTE: ALL QUESTIONS MUST BE ANSWERED TO SUBMIT YOUR APPLICATION UNLESS OTHERWISE INDICATED.**

**SECTION A: APPLICATION FOR COUNTY**

**NOTE:** An applicant may apply for a license for more than one county, but may only receive one license. Indicating here that you are applying for a license for more than one county does not consti license in another county; separate applications must be submitted. The applicant and applying entity must complete a separate application with all required documentation for each application an refundable application fee of \$5,000 for each application. The financial resources required (\$1,000,000 plus not less than \$100,000 for each retail dispensing location) may apply across applications can only apply toward one license, if granted.

---

1. For which county are you requesting a license? City & County of Honolulu

---

2. Are you also applying for a dispensary license in another county? ☐

---

2a. If YES, what other county or counties are you applying for a license?  
(NOTE: A separate application and check will be required for each county.)

---

## SECTION B: INDIVIDUAL APPLICANT INFORMATION

## GENERAL INFORMATION

3. Legal Name of Applicant	Dirk Fukushima
----------------------------	----------------

4. Upload Proof of Legal Name of Applicant	
--	--

Scan and submit a certified copy of AT LEAST ONE (1) of the following:

- \* Certified copy of a birth certificate or marriage certificate filed with a state office of vital statistics or equivalent agency in the individual's state of birth or marriage;
- \* Valid, unexpired U.S. passport [inside cover and first page only] or U.S. passport card;
- \* Consular report of birth abroad Form FS-240, DS-1350 or FS-545 issued by the U.S. Department of State;
- \* Valid, unexpired permanent resident card (Form I-551) issued by the Department of Homeland Security (DHS) or the U.S. Citizenship and Immigration Services (USCIS);
- \* Unexpired employment authorization document issued by the DHS, Form I-766 or Form I-688B;
- \* Unexpired foreign passport with the following: a valid, unexpired U.S. visa affixed, and an approved I-94 form documenting the applicant's most recent admittance into the United States or a DHS admittance stamp on the passport;
- \* Certified copy of the Certificate of Naturalization issued by DHS, Form N-550 or Form N-570;
- \* Certificate of citizenship, Form N-560 or Form N-561, issued by DHS;
- \* Court-issued, certified copy of a divorce decree;
- \* Certified copy of a legal change of name order

5. Date of Birth (must be at least 21 years old)	
--	--



---

**6. Upload Proof of Date of Birth of Applicant**

Scan and submit a certified copy of AT LEAST ONE (1) of the following:

- \* Certified copy of a birth certificate or marriage certificate filed with a state office of vital statistics or equivalent agency in the individual's state of birth or marriage;
- \* Valid, unexpired U.S. passport [inside cover and first page only] or U.S. passport card;
- \* Consular report of birth abroad Form FS-240, DS-1350 or FS-545 issued by the U.S. Department of State;
- \* Valid, unexpired permanent resident card (Form I-551) issued by the Department of Homeland Security (DHS) or the U.S. Citizenship and Immigration Services (USCIS);
- \* Unexpired employment authorization document issued by the DHS, Form I-766 or Form I-688B;
- \* Unexpired foreign passport with the following: a valid, unexpired U.S. visa affixed, and an approved I-94 form documenting the applicant's most recent admittance into the United States or a DHS admittance stamp on the passport;
- \* Certificate of naturalization issued by DHS, Form N-550 or Form N-570;
- \* Certificate of citizenship, Form N-560 or Form N-561, issued by DHS;
- \* Valid, unexpired driver's license or government issued photo identification card.

7. Social Security No. or Identifier No. (last 4 digits only):

8. Applicant's Address

United States

9. Daytime Phone No.

10. Fax No.

11. Email

---

**CRIMINAL HISTORY INFORMATION**

12. Has the individual applicant ever been convicted of a felony? If YES, STOP, you are not an eligible applicant.

13. Has the individual applicant ever been convicted of a crime?

13a. If YES, please describe (e.g., conviction, date, disposition, etc.)

14. Has the individual applicant ever been arrested?

14a. If YES, please describe (e.g., date, disposition, etc.)

---

**Obtain a Criminal History Report**

Copy the Validation code from an eCrim report for the individual applicant generated by the Hawaii Criminal Justice Data Center no earlier than December 12, 2015 at 8:00 a.m. (Hawaii-Aleutian Standard Time).

Visit [eCrim.ehawaii.gov \(https://ecrim.ehawaii.gov/ahewa/\)](https://ecrim.ehawaii.gov/ahewa/) to obtain the eCrim report.

15. Enter the eCrim Validation Code here:

16. NOTICE: Pursuant to Chapter 329D HRS and Chapter 11-850 HAR, applicants are required to provide consent to a background check, including fingerprinting, to be conducted by the Department of Health or its designee.

☒ I consent

Further information and instructions will be provided on <http://health.hawaii.gov/medicalmarijuana/>. If the information and instructions are not yet posted, please check the website often.

RESIDENCY INFORMATION 17. Is the Applicant a legal resident of the State of Hawaii for at least five years? If NO, STOP, you are not an eligible applicant.

18. Upload Proof of Hawaii Residency:

Scan and submit AT LEAST ONE (1) of the following source documents as proof of Hawaii state residency for at least five years:

- \* State of Hawaii tax return Form N-11 without schedules, worksheets, or attachments, and redacted to remove all financial information and all but the last four digits of the individual's social security number;
- \* Evidence of voter registration;
- \* Ownership, lease, or rental documents for place of primary domicile;
- \* Billing statements including utility bills; or
- \* Vehicle registration.

19. Authorized to Act on Behalf of Applying Entity

Scan and submit evidence of the authority of the individual to act on behalf of the applying entity, and supporting documentation (e.g. corporate resolution, bylaws, articles of incorporation):

---

**SECTION C: APPLYING ENTITY INFORMATION**

20. Name of Applying Entity GreenLeaf Medicine, LLC

21. Applying Entity's Business Address

United States

22. Entity Phone #

23. Entity Email

24. Entity Fax #

25. Is the applying entity organized under the laws of the State of Hawaii?  
If the answer is 'NO', STOP, you are not an eligible applicant.



26. Upload Applying Entity Incorporation or Business Status  
Documentation:

Upload a certified copy of applying entity's incorporation documents in  
the State of Hawaii.



Visit [Hawaii Business Express](https://hbe.ehawaii.gov/documents/search.html)  
(<https://hbe.ehawaii.gov/documents/search.html>) for available  
documents.

27. Provide the entity's Hawaii Department of Commerce & Consumer  
Affairs Business Registration Division Number & Suffix (file number).

Visit [Hawaii Business Express - Business Name Search](https://hbe.ehawaii.gov/documents/search.html)  
(<https://hbe.ehawaii.gov/documents/search.html>) to locate your entity's  
file number.



28. Upload a copy of the entity's Certificate of Good Standing from the  
Department of Commerce and Consumer Affairs.



29. Hawaii Tax Identification Number:

Provide the number along with a copy of the State of Hawaii Tax  
Identification Number (see question immediately below).



Visit [Tax ID Search](https://dotax.ehawaii.gov/tls/app) (<https://dotax.ehawaii.gov/tls/app>) for this  
information.

30. Upload a copy of the entity's State of Hawaii Tax Identification  
document.



31. Federal Employer Identification Number: Provide the Federal Employer  
Identification Number.



32. Upload a copy of the entity's Federal Employer Identification Number  
document.



#### OWNER(S), PRINCIPAL(S), & MEMBER(S) INFORMATION

33. Enter the total number of Owner(s), Principal(s), and Member(s) of the  
applying entity here:



---

**34. Upload Owner, Principal, and Member Information Spreadsheet**

**INSTRUCTIONS:** Download the EXCEL spreadsheet below, enter the following information in the format required, and upload it to attach it to your application.

Information to be provided:

**1) List of Owners, Principals, and Members of the Applying Entity**

For each Owner, Principal, and Member of the Applying Entity:

- A) Name, Address, Phone number, and Email Address
- B) Each individual's percent interest in the company
- C) State of primary residence
- D) Number of years each person has lived in Hawaii (the most recent, uninterrupted number of years that the person has been a resident), and
- E) A criminal background check for each Owner, Principal, and Member.

Copy the validation code from an eCrim report for the individual generated by the Hawaii Criminal Justice Data Center no earlier than December 12, 2015 at 8:00 a.m. (Hawaii-Aleutian Standard Time).

Visit [eCrim.ehawaii.gov \(https://ecrim.ehawaii.gov/ahewa/\)](https://ecrim.ehawaii.gov/ahewa/) to obtain the eCrim report.

Please include a signed statement by each Owner, Principal, or Member certifying that the information is complete and accurate. Upload the signed statements in the following question (35.)

**2) Other Businesses Holding an Interest**

If there are businesses that hold an interest in the company, list the business names and percent interest on a separate tab on the spreadsheet.

[Download Owner Principal Member Information Spreadsheet \(/mmjdisp/templates/Owner\\_Principal\\_Member\\_Report.xls\)](#)

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[REDACTED]

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**3) Proof of Hawaii Residency:**

Scan and submit **AT LEAST ONE (1)** of the following source documents as proof of Hawaii state residency for at least five years:

- \* State of Hawaii tax return Form N-11 without schedules, worksheets, or attachments, and redacted to remove all financial information and all but the last four digits of the individual's social security number;
- \* Evidence of voter registration;
- \* Ownership, lease, or rental documents for place of primary domicile;
- \* Billing statements including utility bills; or
- \* Vehicle registration.

Document size limit is 2 MB. Up to 10 documents may be attached.

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**SECTION D: FINANCIAL INFORMATION**

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**36. FINANCIAL RESOURCES GENERAL INFORMATION**

**INSTRUCTIONS:** Download the EXCEL spreadsheet below, enter the following information in the format required, and upload it to attach it to your application.

Information to be provided:

1) Financial Resources the applying entity has under its control. List each financial resource, amount of the resource (round to nearest dollar, no cents), and verifying information (account type, account number, account name, name of financial institution, applicant contact information) as shown on the spreadsheet


2) Date Resource/Dollar amount under the applying entity's control

[Download Financial Resources General Information Spreadsheet \(/mmjdisp/templates/Financial\\_Resources\\_General.xls\)](#)

Upload the completed Financial Resources General Information Spreadsheet

---

**37. Upload Financial Resources General Information Supporting Source Documents**

Upload supporting source documents, i.e. bank statements, escrow account information, balance sheets etc. Supporting source documents for Financial Resources General Information must be provided as proof of the financial resources.


Document size limit is 10 MB. Up to 5 documents may be attached.

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**38. FINANCIAL RESOURCES -  
RETAIL DISPENSING LOCATION INFORMATION**

**INSTRUCTIONS:** Download the EXCEL spreadsheet below, enter the following information in the format required, and upload it to attach it to your application.

Data to be provided:

1) Financial Resources the applying entity has under its control for each retail dispensing location allowed (2 locations maximum)

2) Dollar Amount (total aggregate for each retail dispensing location shall be not less than \$100,000, or \$200,000 for 2 locations)



3) Date Resource/Dollar amount under the applying entity's control (resources have been under the Applying Entity's control for not less than 90 days)

[Download Financial Resources - Retail Dispensing Location Information Spreadsheet](#)  
(/mmjdisp/templates/Financial\_Resources\_Retail\_Dispensing\_Location.xls)

Upload the completed Financial Resources - Retail Dispensing Location Information Spreadsheet

---

**39. Upload Retail Dispensary Location Supporting Source Documents**

Upload supporting source documents, i.e. bank statements, escrow account information, balance sheets etc. Supporting source documents for retail dispensary locations must be provided as proof of the financial resources.



Document size limit is 10 MB. Up to 5 documents may be attached.

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**SECTION E: MERIT INFORMATION - OPTIONAL**

Responses for each criteria shall be no longer than specified for each criteria, double spaced, font size no smaller than 12, and margins no less than 1 inch on all sides.

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(1) Ability to operate a business, including but not limited to education, knowledge, and experience with:

- (A) Regulated industries;
- (B) Agriculture or horticulture;
- (C) Commercial manufacturing;
- (D) Pharmaceutical companies;
- (E) Operating or working in a medical marijuana dispensary business;
- (F) Creating and implementing a business plan, including a timeline for

opening a business;

- (G) Creating and implementing a financial plan;

- (H) Retail sales;

- (I) Secure inventory tracking and control;

- (J) Protecting confidential customer information;

(K) Owning or managing a business that required twenty four hour security monitoring; and

- (L) Any other experience the applicant considers relevant;

Response to (1) shall be no longer than five (5) pages.

Upload Response to (1)

---

(2) Plan for operating a medical marijuana dispensary in the county for which the applicant is seeking a license, including but not limited to a timeline for opening a retail dispensing location;

Response to (2) shall be no longer than five (5) pages.

Upload Response to (2)

---

(3) Proof of financial stability and access to financial resources, including but not limited to:

(A) Legal sources of finances immediately available to begin operating a dispensary;

(B) A summary of financial statements in businesses previously or currently owned or operated by the applicant;

(C) A financial plan for operating a medical marijuana dispensary in Hawaii;

(D) Good credit history; and

(E) History of bankruptcy by the applicant or entities owned or operated by the applicant;

Response to (3) shall be no longer than five (5) pages.

Upload Response to (3)

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(4) Ability to comply with the security requirements of Chapter 11-850 and Section 329D-7, HRS;

Response to (4) shall be no longer than five (5) pages.

Upload Response to (4)

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(5) Capacity to meet the needs of qualifying patients, including but not limited to:

(A) Educating patients on how marijuana can be used to assist patients with debilitating medical conditions and about the marijuana and manufactured marijuana products that will be available in the applicant's retail dispensing locations;

(B) Producing and maintaining a supply of marijuana that is sufficient to meet the needs of qualifying patients;

(C) Providing safe, accessible retail dispensing locations; and

(D) Measuring and improving customer satisfaction;

Response to (5) shall be no longer than five (5) pages.

Upload Response to (5)

---

(6) Ability to comply with criminal background check requirements pursuant to Chapter 11-850 and Sections 329D-7, 329D-12, and 846-2.7, HRS;

Response to (6) shall be no longer than three (3) pages.

Upload Response to (6)

---

(7) Ability to comply with the requirements in Chapter 11-850 and Sections 329 and 329D, HRS, for inventory tracking, security, and dispensing limits for qualifying patients;

Response to (7) shall be no longer than five (5) pages.

Upload Response to (7)

---

(8) Ability to maintain confidentiality of a qualifying patient's medical condition, health status, and purchases of marijuana or manufactured marijuana products;

Response to (8) shall be no longer than three (3) pages.

Upload Response to (8)

---

(9) Ability to conduct or contract for certified laboratory testing on marijuana and manufactured marijuana products pursuant to Chapter 11-850 and Sections 329D-7 and 329D-8, HRS;

Response to (9) shall be no longer than three (3) pages.

Upload Response to (9)

---

(10) Ability to comply with requirements for packaging, labeling, and chain of custody of products;

Response to (10) shall be no longer than three (3) pages.

Upload Response to (10)

---

---

(11) A plan for secure disposal of marijuana and manufactured marijuana products;

Response to (11) shall be no longer than five (5) pages.

Upload Response to (11)

---

(12) Ability to ensure product safety, in accordance with Chapter 11-850 and Sections 329D-8, 329D-10, 329D-11, HRS.

Response to (12) shall be no longer than five (5) pages.

Upload Response to (12)

---

(13) No history of having a business license revoked.


Response to (13) shall be no longer than three (3) pages.

Upload Response to (13)

---

**SECTION F: CERTIFICATION AND SUBMITTAL**

**Certification**

 I hereby certify under penalty of law that the information submitted as part of this application is correct and complete.

By checking the box above and entering the individual applicant's name below, the applicant has electronically signed this application.

**Applicant Name**

Dirk Fukushima

If you have previously submitted an application and this is a revision, enter the unique entry number(s) of your previous submission(s) here.

**User ID**

**User Email**

Entry Info

**Date Created**

**Date Updated**

**IP Address**



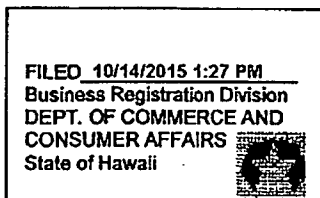
We, the member / managers of Green Leaf Medicine LLC, a limited liability company organized and existing under the laws of the State of Hawaii hereby certify:

1. that in accordance with the Articles of Organization filed 10/14/2015 Green Leaf Medicine LLC is managed by Dirk Fukushima, Dale Fukushima, and Nick Teves.
2. that Dirk Fukushima is a member / manager of Green Leaf Medicine LLC.
3. [REDACTED] Fukushima (signature as follows)  
[REDACTED] is authorized to bind the LLC for matters  
[REDACTED] Greenleaf Medicine, LLC.

IN WITNESS HEREOF, the undersigned affixes their signatures to testify to this authority this 12<sup>th</sup> day of January, 2016.

[REDACTED]  
\_\_\_\_\_  
Nick Teves, Jr.  
Member/Manager

[REDACTED]  
\_\_\_\_\_  
Dale Fukushima  
Member/Manager



FORM LLC-1  
7/2010

STATE OF HAWAII  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS  
Business Registration Division  
335 Merchant Street  
Mailing Address: P.O. Box 40, Honolulu, Hawaii 96810  
Phone No. (808) 586-2727



## ARTICLES OF ORGANIZATION FOR LIMITED LIABILITY COMPANY

(Section 428-203, Hawaii Revised Statutes)

PLEASE TYPE OR PRINT LEGIBLY IN BLACK INK

The undersigned, for the purpose of forming a limited liability company under the laws of the State of Hawaii, do hereby make and execute these Articles of Organization:

I

The name of the company shall be:

Greenleaf Medicine, LLC

(The name must contain the words Limited Liability Company or the abbreviation L.L.C. or LLC)

II

The mailing address of the initial principal office is:

[REDACTED]

III

The company shall have and continuously maintain in the State of Hawaii a registered agent who shall have a business address in this State. The agent may be an individual who resides in this State, a domestic entity or a foreign entity authorized to transact business in this State.

- a. The name (and state or country of incorporation, formation or organization, if applicable) of the company's registered agent in the State of Hawaii is:

Dirk Fukushima

Hawaii

(Name of Registered Agent)

(State or Country)

- b. The street address of the place of business of the person in State of Hawaii to which service of process and other notice and documents being served on or sent to the entity represented by it may be delivered to is:

[REDACTED]

IV

The name and address of each organizer is:

Dale Fukushima, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

10/15/201520129

FORM LLC-1  
7/2010

10/15/201520129

V

The period of duration is (check one):

☒ At-will

☐ For a specified term to expire on:

(Month)

(Day)

(Year)

VI

The company is (check one):

a. ☒ Manager-managed, and the names and addresses of the initial managers are listed in paragraph "c",  
and the number of initial members are: 6

b. ☐ Member-managed, and the names and addresses of the initial members are listed in paragraph "c",

c. List the names and addresses of the initial managers if the company is Manager-managed, or  
List the names and addresses of the initial members if the company is Member-managed.

Nick Teves, Jr.

Dale Fukushima

Dirk Fukushima

VII

The members of the company (check one):

☒ Shall not be liable for the debts, obligations and liabilities of the company.

☐ Shall be liable for all debts, obligations and liabilities of the company.

☐ Shall be liable for specified debts, obligations and liabilities of the company *as stated below*, and have consented in writing to  
the adoption of this provision or to be bound by this provision.

We certify, under the penalties set forth in the Hawaii Uniform Limited Liability Company Act, that we have read the above statements,  
I am authorized to sign this Articles of Organization, and that the above statements are true and correct to the best of our knowledge  
and belief.

Signed this 24th day of September, 2015

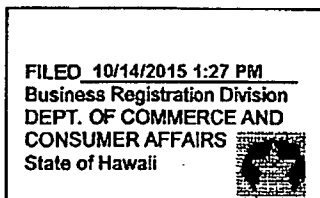
Dale Fukushima

(Type/Print Name of Organizer)

(Type/Print Name of Organizer)

(Signature of Organizer)

SEE INSTRUCTIONS PAGE. The articles must be signed and certified by at least one organizer of the company.



FORM LLC-1  
7/2010

STATE OF HAWAII  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS  
Business Registration Division  
335 Merchant Street  
Mailing Address: P.O. Box 40, Honolulu, Hawaii 96810  
Phone No. (808) 586-2727



## ARTICLES OF ORGANIZATION FOR LIMITED LIABILITY COMPANY

(Section 428-203, Hawaii Revised Statutes)

PLEASE TYPE OR PRINT LEGIBLY IN BLACK INK

The undersigned, for the purpose of forming a limited liability company under the laws of the State of Hawaii, do hereby make and execute these Articles of Organization:

I

The name of the company shall be:

Greenleaf Medicine, LLC

(The name must contain the words Limited Liability Company or the abbreviation L.L.C. or LLC)

II

The mailing address of the initial principal office is:

[REDACTED]

III

The company shall have and continuously maintain in the State of Hawaii a registered agent who shall have a business address in this State. The agent may be an individual who resides in this State, a domestic entity or a foreign entity authorized to transact business in this State.

- a. The name (and state or country of incorporation, formation or organization, if applicable) of the company's registered agent in the State of Hawaii is:

Dirk Fukushima

Hawaii

(Name of Registered Agent)

(State or Country)

- b. The street address of the place of business of the person in State of Hawaii to which service of process and other notice and documents being served on or sent to the entity represented by it may be delivered to is:

[REDACTED]

IV

The name and address of each organizer is:

Dale Fukushima, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

10/15/201520129

FORM LLC-1  
7/2010

10/15/201520129

V

The period of duration is (check one):

☒ At-will

☐ For a specified term to expire on:

(Month)

(Day)

(Year)

VI

The company is (check one):

a. ☒ Manager-managed, and the names and addresses of the initial managers are listed in paragraph "c",  
and the number of initial members are: 6

b. ☐ Member-managed, and the names and addresses of the initial members are listed in paragraph "c",

c. List the names and addresses of the initial managers if the company is Manager-managed, or  
List the names and addresses of the initial members if the company is Member-managed.

Nick Teves, Jr.

Dale Fukushima

Dirk Fukushima

VII

The members of the company (check one):

☒ Shall not be liable for the debts, obligations and liabilities of the company.

☐ Shall be liable for all debts, obligations and liabilities of the company.

☐ Shall be liable for specified debts, obligations and liabilities of the company *as stated below*, and have consented in writing to  
the adoption of this provision or to be bound by this provision.

We certify, under the penalties set forth in the Hawaii Uniform Limited Liability Company Act, that we have read the above statements,  
I am authorized to sign this Articles of Organization, and that the above statements are true and correct to the best of our knowledge  
and belief.

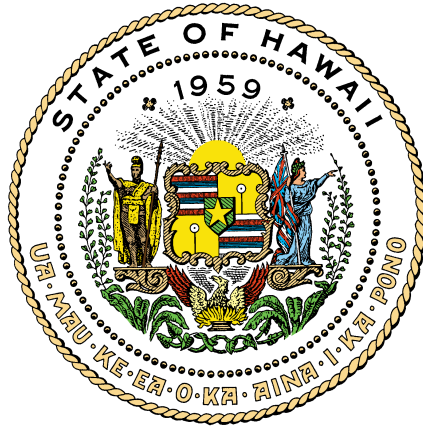
Signed this 24th day of September, 2015

Dale Fukushima

(Type/Print Name of Organizer)

(Signature of Organizer)

SEE INSTRUCTIONS PAGE. The articles must be signed and certified by at least one organizer of the company.



## Department of Commerce and Consumer Affairs

### CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that according to the records of this Department,

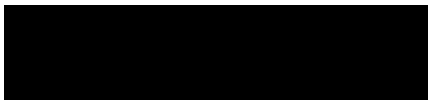
GREENLEAF MEDICINE, LLC

was organized under the laws of the State of Hawaii on 10/14/2015 ;  
that it is an existing limited liability company in good standing  
and is duly authorized to transact business.



IN WITNESS WHEREOF, I have hereunto set  
my hand and affixed the seal of the  
Department of Commerce and Consumer  
Affairs, at Honolulu, Hawaii.

Dated: January 11, 2016



Director of Commerce and Consumer Affairs



[illegible]

List the business name(s) and percent interest on the spreadsheet if there are businesses that hold an interest in the applying entity.

Other Businesses Holding an Interest

Percent Interest

GreenLeaf Medicine, LLC (GLM) through its six members, licensing partners, and advisory council members has **the ability to operate a business, including but not limited to education, knowledge, and experience.** This holds relevance in regards to this application as it applies to operating a medical marijuana cultivation, production and dispensary business HRS 329D and applicable rules. See Appendix 1 for additional information on each member, (*Appendix 1.1*), advisory council member (*Appendix 1.2*) and licensing partner (*Appendix 1.3*).

(A) **Regulated industries:** Member **Wallace Tsuha, Jr**, Founder and Former Chairman of Saturn Electronic and Engineering, Inc. (SEE) has extensive education, knowledge and experience in regulated industry. SEE was highly regulated by both State and Federal regulations including the National Highway Traffic Safety Administration, OSHA, Environmental Protection Agency, Sarbanes-Oxley and OEM regulations. Member **Edward Onouye**, former partner at Locations, Inc. started as a licensed real estate agent in 1975 and has education, knowledge and experience through his training and license which is regulated by the US Department of Justice as it pertains to the State of Hawaii. He is currently a partner in Hawaiian Ice Company which is held to DOH, FDA and OSHA safety regulations. They also follow the International Packaged Ice Association protocol formulated for the federal government rules pertaining to packaged ice. They are also regulated by the Veterinary Services of the military which allows for sale of products to military facilities. As a partner of Hawaiian Organics (DBA Body Mint) they are regulated by food safety, truth in labeling, health and safety standards. Advisory Council Member **Xianxian Zheng**, Ph. D. has extensive education, knowledge and experience in a highly regulated industry. She is Senior Principal Scientist, Precision Medicine, Oncology Research Unit for Pfizer Inc., one of the world's premier biopharmaceutical

companies. Prior to her current duties, managed and coordinated the production processes in compliance with FDA guidelines for the University of Michigan, Medical School.

(B) **Agriculture or horticulture:** Advisory Council Member **Greg Schlick** has an M.S. in Biological Science. He has extensive education, knowledge and experience in this field. Greg has worked for NASA since 1990. His expertise includes indoor controlled environments and greenhouse lighting for aerospace, agriculture, and education as well as growing food in a controlled space environment. Advisory Council Member **Andy Williams**, is the President and CEO of Medicine Man Technology (MMT) of Colorado. He has significant knowledge and experience in both agriculture and horticulture. His company is a leader in vertically integrated commercial cannabis production, manufacturing and distribution. In 2015 they won the award for Colorado's best dispensary.

(C) **Commercial manufacturing:** Member **Wallace Tsuha, Jr**, Founder and Former Chairman of Saturn Electronic and Engineering, Inc. (SEE). He has extensive education, knowledge and experience in this area. SEE has been an Original Equipment Manufacturer (OEM) of electronic parts to the automobile industry since 1985. [REDACTED]

[REDACTED] utilizing Just-In-Time (JIT) commercial manufacturing to high automotive quality standards. As such he is highly versed in all aspects of commercial manufacturing. Member **Edward Onouye** through his partnership in Hawaiian Ice Company has extensive knowledge of on time production, supply chain and delivery systems. [REDACTED]

(D) **Pharmaceutical companies:** Advisory Council Member **Kurtis Nakamura, PharmD** is the Pharmacy Supervisory for CVS Health/Longs Drugs. He has extensive education, knowledge and experience in running pharmaceutical operations. He is a licensed

pharmacist responsible for 14 pharmacies in central/west Oahu and four on the island of Kauai. Advisory Council Member **Xianxian Zheng**, Ph. D. Senior Principal Scientist, Precision Medicine, Oncology Research Unit for Pfizer Inc. She has a Ph.D. in Biochemistry from Emory University and her current duties include managing the quality management system for the Biomarker lab to ensure compliance to GCP guidelines and led the expression profiling group on technology developments, protocol improvements and establish SOP.

**(E) Operating or working in a medical marijuana dispensary business:** Advisory Council Member **Andy Williams**, is the President and CEO of Medicine Man Technology (MMT) of Colorado. He has extensive knowledge and experience in this field. His company is a leader in vertically integrated commercial cannabis production, manufacturing and distribution. They are Denver, Colorado's largest dispensary and were awarded Colorado's best dispensary in 2015. As a licensing partner, MMT will provide access to their innovative practices and full access to all of MMT's knowledge and experience, including training, indoor cultivation system design, and standard operating procedures throughout the vertical business of cultivation, production, and dispensing of medical marijuana. (See *APPENDIX 1.3* for a more detailed description of MMT).

**(F) Creating and implementing a business plan, including a timeline for opening a business:** All six of the members of GLM have extensive education, knowledge and experience in start up as well as established businesses. Every one of these companies required extensive business planning prior to launch, as well as timelines for opening and continued business planning for successful operation to this day. Member Nicholas Teves, Jr. started Commercial Electric in 1972. Member Wallace Tsuha Jr. started Saturn Electronic and Engineering, Inc. in 1985. Member Edward Onouye started multiple business including Hawaiian Ice Company in

1995, Hawaiian Organics in 1997, and Sweep Strategies, LLC in 2009. Member Dirk Fukushima started Hawaii Stars, Inc. in 1993, and 4 Miles, LLC in 2008. Member Ruben Carrillo started Liquid Planet Studios, LLC in 1996 and 4 Miles, LLC in 2008. Member Dale Fukushima started Royal Pacific Sales (DBA Sunny Hawaii) in 2000.

**(G) Creating and implementing a financial plan:** Every one of the businesses listed above in 1(F) require extensive knowledge and experience in creating and implementing a financial plan in order to be successful. **The six members** of Greenleaf Medicine LLC (GLM) have 154 combined years of direct expertise in leadership and/or hands-on ownership of successful businesses. [REDACTED]

**(H) Retail sales:** Member **Dale Fukushima** has over 18 years of extensive knowledge and experience in retail sales. She has managed retail stores for Harley Davidson and created private label programs with national retail chains including sell through forecasting and pricing strategies for Sunny Hawaii.

**(I) Secure inventory tracking and control:** Advisory Council Member **Kurtis Nakamura, PharmD** is the Pharmacy Supervisory for CVS Health/Longs Drugs. He has education, knowledge and experience in this category. As supervisor he is responsible for secure inventory tracking and control of pharmaceutical medicines for all 18 pharmacies. Member **Dale Fukushima** has education as well as extensive knowledge and experience with secure inventory tracking and control. At Harley Davidson she dealt with more than 3000 Stock Keeping Units (SKUs). At Sunny Hawaii she worked with 350-500 SKU's at any given time. Member **Nicholas Teves, Jr.** had extensive knowledge and experience with inventory tracking and control through Commercial Electric 20,000 ft. of conduit, over 1M ft of wire and 5000 fittings

**(J) Protecting confidential customer information:** Advisory Council Member **Kurtis Nakamura, PharmD** is the Pharmacy Supervisory for CVS Health/Longs Drugs. He has significant education, knowledge and experience in protecting confidential customer information. Advisory Council Member **Denny Miyasato** is the President of Video Vend, Inc. d.b.a. ATM Pacific. ATM Pacific is the largest independent ATM provider in the State of Hawaii with over 500 ATM placements on Oahu, Maui, Kauai & island of Hawaii. Denny has extensive knowledge and experience in the processing of cash with his early years as Hawaii largest coin operated amusement vending company.

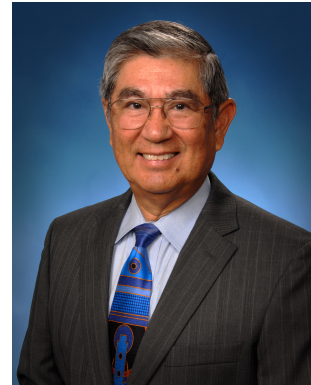
**(K) Owning or managing a business that required twenty four hour security monitoring:** Member **Nicolas Teves, Jr.** has knowledge and experience owning and managing a business that requires 24 hour security. He is currently the vice-chair of the Sand Island Business Association, which contracts 24-hour security for more than 80 businesses in the area.

**(L) Any other experience the applicant considers relevant:** Advisory Council Member **Momi Imaikalani Fernandez**, Director of the Census Information Center and Data & Information at Papa Ola Lokahi, a non profit Native Hawaiian Health Board has extensive education, knowledge and experience in cultural sensitivity. Advisory Council Member **Andre LaForge**, owner of Apache Technology, Inc. has extensive education, knowledge and experience in power reduction strategies through LED lighting and other technological strategies. Advisory Council Member **Carole Kai Onouye**, Founder Carole Kai Charities (Great Aloha Run), has extensive knowledge and experience in philanthropy throughout Hawaii. Advisory Council Member **Lee Donohue** is Former Chief of Police, City and County of Honolulu. He currently supports the business development efforts and operations of Securitas Security Services, USA.

## Appendix 1

### 1.1 – GreenLeaf Medicine, LLC Member Biographies

**Wallace Tsuha, Jr.**  
**Member/Manager, Greenleaf Medicine, LLC**  
**Vertical Strategies Co-Leader**



Born and raised on Oahu, Wally is a graduate of Farrington High School.

Mr. Tsuha has 40 years of electronics operations, design, and manufacturing experience - specifically in the automotive global component industry. Mr. Tsuha is the President of The Tsuha Foundation. He is also the retired Founder & Chairman of Saturn Electronics & Engineering Inc., a firm he Founded in 1985 and [REDACTED] Saturn became a global leader of unique electro-mechanical proprietary products and a full-service electronics manufacturer to the automotive, commercial and military markets. It was acquired by a Fortune 200 firm in 2013.

Prior to founding Saturn, Mr. Tsuha played major roles in two successful start-ups: Rockwell Automotive Electronics and TRW Transportation Electronics. He began his career in the U.S. Army, where he was instrumental in the Air Defense Command. He then went on to work at General Motors' Advance Electronics Research Laboratory for 10 years.

Mr. Tsuha is a former Board Member of the Original Equipment Suppliers Association (OESA), a former Board Member of Gentex Corporation, a Director at the National Minority Supplier Development Council, and Chairman and Founder of the Asian Pacific American Chamber of Commerce (APACC). He is also a Founder & Director of ACE, Asian/Pacific Islander American Chamber of Commerce and Entrepreneurship, <http://nationalace.org/who-we-are/>

Mr. Tsuha was recognized by Inc. 500 Magazine as leading one of the “Fastest Growing Companies,” six consecutive years. Mr. Tsuha has received numerous awards for excellence as a minority businessperson and small business entrepreneur.

**Tsuha Capitol. - Founder 2012 - Present**

A private investment firm focused on making a difference in the Environment, Natural resources Utilization, and quality of life through investment in companies that can make this world a better place.



**The Tsuha Foundation. - President/Founder 2012 - Present**

The foundations purpose is to help people overcome the disadvantages of low income and poverty with support for education, college tuition and food. This Private Foundation donates to 501-c3 organizations to provide a multiplying financial support to continue their excellent work. To date the Tsuha Foundation has donated approximately [REDACTED] eligible nonprofit organizations.

**Saturn Electronic & Engineering, Inc. - Founder/Owner 1985 - 2012**

Design and manufacture automotive electronics for sale to GM, Ford and Chrysler. From this start-up on his kitchen table Wally grew the company to [REDACTED] in revenue and 2,000 employees in four countries through acquisitions and internal growth. Manufacturing plants were located in the United States, Mexico, Philippines, and China. The company was acquired in December of 2012 by a large Global Fortune 200 company.

**Personal**

[REDACTED]

## **Nick W. Teves, Jr.**

### **Member/Manager, Greenleaf Medicine, LLC**

#### **Strategic Planning & Production Lead**



A native Hawaiian and graduate of St. Louis High School, Nick has lived on Oahu his entire life. Respected for his wisdom and business acumen, he has accepted appointments to multiple commissions and licensing boards extended by Governors Ariyoshi, Waihee and Lingle. He owns a farm in Waimanalo and is putting energy and knowledge to work with GreenLeaf Medicine in order to strengthen the overall strategic plans with a focus on the production facilities.

### **Commercial Electric, Inc. – President/Owner 1972 – Present**

With over 50 employees, Commercial Electric is one of Hawaii's larger electrical contracting companies in the State of Hawaii. Contracts to include Federal, State, City, and Commercial. Some of the major present and past include:

- Sand Island Waste Water Treatment Plant
- Ka Makana Shopping Center
- State Judiciary Building
- Costco (2)
- Home Depot
- Target
- Best Buy

### **HAST Properties, LLC – Member and Managing Partner 2005 – Present**

Commercial real estate leasing and development company

### **Mikole Sales and Repairs, LLC**

Commercial real estate leasing company

### **Boards and Commissions**

#### **Current**

- Pacific Electrical Contractors Association of Hawaii – Current President
- Sand Island Business Association – Board member since inception – Chair (again) in 2016

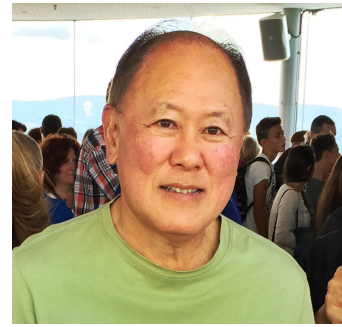
#### **Previous**

- Land Use Commission, State of Hawaii
- Contractor's License Board, State of Hawaii
- Aloha Tower Commission, State of Hawaii
- Board of Electricians and Plumbers, State of Hawaii

### **Personal**

[REDACTED]

**Edward Onouye**  
**Member, GreenLeaf Medicine, LLC**  
**Vertical Strategies Co-Leader**



**Greenleaf Medicine - Vertical Strategies Co-Leader**

Born and raised in Hawaii, he is a graduate of Farrington High School and his experience in taking multiple businesses from concept to market makes him well suited to guide Greenleaf Medicine through the entire vertical business model. Hawaiian Organics (Body Mint and Grenades Gum), Hawaiian Ice Co., and Sweep Strategies, LLC are manufacturing, distribution and educational companies which he and his team started and are leaders in their market niche today.

He attended the University of Hawaii, School of Engineering and holds a Bachelor's degree in Civil Engineering from Rose-Hulman Institute of Technology, Terre Haute, Indiana. He worked in engineering for Westinghouse Electric Corp, North American Rockwell, and the State of Hawaii, Dept. of Transportation in the 1960's and 1970's.

**Locations Inc. and Eddie Onouye, Inc. – Partner and Owner 1975 - 2015**

He was a partner at Locations Inc. which he helped grow into the largest residential real estate company in the State of Hawaii and later started Eddie Onouye Inc. Both real estate companies specialized in the sales and development of single family, condominium and multi family properties.

**Hawaiian Ice Company - Partner 1995 - Present**

Hawaii's largest manufacturer and distributor of packaged ice on Oahu capable of producing over 200 tons of packaged ice per day. As a principal, he and his partners started the company which manufactures and distributes packaged ice to retail outlets throughout Oahu including Costco, Safeway, Longs/CVS, Seven Eleven Stores, Foodland Stores, Honolulu Marathon, Great Aloha Run and various other retail outlets. Their fleet of vehicles includes 14 large trucks and employs 45 people. The company uses "reverse osmosis" to purify the water and the product is tested regularly by governmental agencies on an annual basis.

**Hawaiian Organics - Partner 1997 - Present**

Manufactures and distributes a natural supplement called "Body Mint" which helps to reduce or eliminate body odor. The partnership spent years of research and testing, including medical trials and enlisted the help of biochemists to come up with the formula for this product. It is now distributed in retail locations throughout in Hawaii, online and the continental U.S. A fully vertical business model from concept to consumer, guided this Hawaii based company from development to production, marketing and sales. Hawaiian Organics now has multiple product lines and has also launched a unique chewing gum called Grenades which is presently on the market in Hawaii.

**Sweep Strategies, LLC - Partner 2009 - Present**

Consults with individuals and companies about debt and mortgage reduction strategies as well as strategies to develop passive income. Currently Sweet Strategies, LLC has 10 instructors on Oahu who help hundreds of people each year better their credit scores, pay off mortgages, college loans, and other types of debt.

**Personal**

[REDACTED]

## **Dirk Fukushima**

**Member/Manager, Greenleaf Medicine, LLC**  
**Project Lead**



Born on Oahu and raised in Hilo, Dirk is a graduate of Hilo High School and holds a B.A. in Broadcasting from The University of Hawaii at Manoa. As an award winning producer his vast experience with project management makes him the perfect lead for a start-up company with a wide variety of issues to solve as it emerges from concept and aims for excellence in its field. His strengths include being able to gather experts and create a team that can execute. He has significant experience in raising capital for projects, staying within budget parameters and generating a stable, profitable outcome.

### **Hawaii Stars Presents, Inc. - Partner 1993 - Present**

Hawaii's leading program producers with over 1,000 episodes aired and 24 national, regional, local awards. Hawaii Stars (TV show) has a 91% brand recognition in the State of Hawaii producing entertainment, business and documentary programming.

### **DST Hawaii – Partner 2013 - Present**

Production management, bookkeeping, and real estate investment.

### **4 Miles LLC - Partner 2008 - Present**

Specializing in Hawaiian culturally based media content for global consumption. Clients include Kamehameha Schools, Office of Hawaiian Affairs, Merrie Monarch Festivals and the Hawaii Academy of Recording Arts.

### **Personal**

[REDACTED]

**Dale Tagami Fukushima**  
**Member/Manager, Greenleaf Medicine, LLC**  
**Retail Lead**



Born and raised in Hawaii, Dale is a graduate of Kaiser High School. She has spent over 25 years directly involved in large national retail business as well as small startup retail and wholesale businesses. She is an expert in market analysis, product sourcing, licensing programs, operations, wholesale and retail sales. She is well suited to lead the retail operations of Greenleaf Medicine.

**2012 - Present**

**DST Hawaii – Partner**

Production management, bookkeeping, client relations and real estate investment.

**2000 - 2012**

**Royal Pacific Sales dba Sunny Hawaii - President**

Designed systems to build a solid business operation. Created sales tools and tracking systems to maximize sales efforts and analyze business. Responsible for trend management and product life cycle opportunities. Implemented sales strategies, created a nationwide sales force, developed Private Label programs with national retail chains including product selection, functionality, style development, sell through forecasting and pricing strategy. Co-branding and alliance building with partners.

**1995 – 2000**

**Pacific Harley-Davidson – Director of Retail Stores**

Managed and developed retail Harley-Davidson stores. Product development for dealerships and retail stores worldwide. Conducted retail training classes for dealerships nationwide. Responsible for inventory (buy, manage, sales, close-out), website design, wholesale to other dealerships, staff development, incentive programs, sales, marketing, maintenance and overall operations.

**Personal**



**Ruben S. Carrillo**  
**Member, Greenleaf Medicine, LLC**  
**Branding & Marketing Strategies Lead**



Ruben's entire career has been in media production. He is an award winning cinematographer and director including numerous Emmy's and Tellys as well as best of film festival. An avid still photographer, he focuses on cultural and Hawaiian portraits and landscapes. He currently has an image in the Smithsonian.

He currently works with some of the most successful projects to come through Hawaii including Hawaii 5-O, Comedy Central, and every major US and cable network. He has a strong social-media background with multiple online videos with over half-a-million views each. His eye for production and market image as well as his experience with social and broadcast media adds a very unique and valuable perspective to the Green Leaf Industries team.

**Carrillo Digital Inc. - President/Owner 2012 - Present**

High end video production company based in Honolulu, HI focused on commercial production, television long format, documentary and live event coverage.

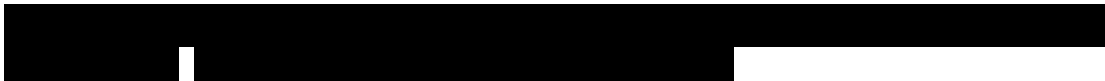
**4 Miles, LLC. - Partner 2008 - Present**

Specializing in Hawaiian culturally based media content for global consumption. Clients include Kamehameha Schools, Office of Hawaiian Affairs, Merrie Monarch Festivals and the Hawaii Academy of Recording Arts.

**Liquid Planet Studios President/Partner 1996-2012**

At one time Hawaii's largest production company that produced over 80 multi-cam live events a year. Featuring a 50' multi cam expando trailer, a 35' HD multi cam trailer, sound stage, commercial production and equipment rental.

**PERSONAL**





# GreenLeaf Medicine - Advisory Council

## 1. Law Enforcement

Lee Donahue - Former Chief, Honolulu Police Department

## 2. Pharmacist

Xianxian Zheng, Ph.D. - Pfizer, Senior Principal Scientist

Kurtis Nakamura - Supervisor CVS Caremark

## 3. Agriculture

Andy Williams - Founder, Medicine Man Technologies

Greg Schlick - NASA/Ames Research Center's Ecosystem  
Science & Technology Branch

## 4. Production

Kelly Knutson - Founder, CanCore Concepts

## 5. Legal

Wesley Y.S. Chang - Law Offices of Wesley Y.S. Chang

## 6. LED Lighting

Andre LaForge, Apache Tech, President/Owner

## 7. Community Service

Carole Kai - Carole Kai Charities (Great Aloha Run)

## 8. Information Technology

John Strandberg, General Manager, Hawaii Tech Support

## 9. Market Research

Hersh Singer, Chairman SMS Research

## 10. Hawaiian Culture

Momi Fernandez, Papa Ola Lokahi, A Native Hawaiian  
Health Board

## 11. Cash Management/ATM

Denny Miyasato, Founder ATM Pacific

# Lee Donohue

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## Experience

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### **Securitas Security – Director of Security**

**2009 – Present**

Support business development efforts and operations of Securitas Security Services, USA.

### **Honolulu Police Department – Chief of Police**

**1964 – 2004**

Worked in the Honolulu Police Department and served in every Rank of service from Patrolman to Chief of Police including the Patrol Divisions, Communications, Records & Identification, Narcotic's - Vice, and Internal Affairs. Lead, controlled and directed the activities of the 2,000 Police Officers and 600 Civilian employees of the Honolulu Police Department that allowed Honolulu, Hawaii to become one of the safest cities in the United States.

## Education

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### **B.G.S. in Social Science**

**1971 - 1977**

Chaminade University of Honolulu

## Personal

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Married to Lucille Donohue

## Skills

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### **Law Enforcement & Compliance**

Knowledge and expertise in the Hawaii Criminal Statute along with compliance protocol for the City & County of Honolulu.

## Interest/Hobbies

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Karate, helping the youth of Hawaii

# CURRICULUM VITA

## Xianxian Zheng, Ph. D.

**EDUCATION**    **Emory University, Medical School**    **Atlanta, GA**  
*Ph. D. in Biochemistry*    (1990)

- Biochemical characterization of mitochondrial encephalomyopathy
- Genetic analysis of mitochondrial encephalomyopathy resulting from mitochondrial DNA mutation

### PROFESSIONAL EXPERIENCES

**2013-Present**    **Pfizer, Senior Principal Scientist**    **San Diego, CA**  
**Precision Medicine, Oncology Research Unit**

- Precision Medicine Biomarker lead for Palbo and Alk1, responsibilities include facilitate and implement the biomarker strategies.
- Lead technology development efforts, particularly focusing on various gene expression analysis platforms. Working with Project team to identify an appropriate approaches or technologies to support biomarker strategy
- Perform RNAseq gene expression analysis to development Palbo response signature from various indications including ER+Breast cancer, Lung squamous, and HNSCC
- Working with TO colleagues to support ALK1 Biomarker strategy and provide advice for technology evaluation with the outside vendor.
- Working with GSI team to active support the gene expression signature analysis for support patient selection strategies
- Manage quality management system for the Biomarker lab to ensure compliance to GCP guidelines

**2007-2013**    **Pfizer, Principal Scientist**    **San Diego, CA**  
**Precision Medicine, Oncology Research Unit**

- Precision Medicine lead for SMO projects, responsibilities include interfacing with colleagues in TO and preclinical project team and facilitate and implement the biomarker strategies.
- Biomarker assay development lead for projects including SMO and Gamma-secretase. Design, develop, and implement translatable biomarker assays for phase I trial POM purpose.
- Participate Breath of Efficacy (BOE) activities. Responsible for correlative analysis for pharmacology, genetic mutation, expression profiling and proteomic data for Pan-HER project.
- Responsible for implementation the biomarker assay in clinical settings in compliance for GCP guidance.

**2004-2007**    **Pfizer, Principal Scientist**    **Ann Arbor, MI**  
**Molecular & Target Biology, Discovery Biomarker Group (DBG)**

DBG liaison interfacing with therapeutic areas project teams

- Identify, develop, and validate target biomarker assay for Sky (Receptor Tyrosine kinase) project in cardiovascular TA for thrombosis indication. A highly sensitive Immuno-PCR assay was developed and demonstrates 10-100 fold higher sensitivity compared to conventional ELISA format. I received 2006 Upjohn award for innovation because of this work.
- Design, develop, and implement a peripheral platelet assay for CNS  $\alpha_{2A}$  adrenergic receptor program for ADHD. This assay allows the determination of the target receptor modulation by measuring intra-platelet levels of cAMP concentrations using LANCE cAMP assay (TR-FRET assay).
- A member of S1P1 project team and responsible for establishing stable S1P4 and S1P5 expression cell lines for binding and functional assays for our inflammation RA program.

Cross-line and cross-site interactions providing technical expertise and consultation

- Lending Laser microdissection technology consultation and expertise to CVMED enabling team on their biomarker studies for primate pancreatic islet isolation and gene expression profiling.
- Lead Ann Arbor site Immuno-PCR technology development and participate cross-site technology evaluation between sites.
- Provide expression profiling technology consultation for therapeutic area colleagues and teams

**2000-2004**

**Pfizer, Principal Scientist**

**Molecular Sciences and Technologies, Molecular Technology (MT)**

**Ann Arbor, MI**

- Lead the expression profiling group on technology developments, protocol improvements and establish SOP. Manage resources for processing requests from therapeutic area projects.
- Lead the CDK4 project team from MT (now DBG) and collaborate with Oncology and proteomic colleagues using multiple molecular profiling technologies to study the mechanism of action and biomarkers for CDK4 inhibitor program.
- Lead the Thyromimetic and Soft\_ER teams from MT (now DBG) and collaborate with Dermatology project teams on investigation of confidence in mechanism and biomarkers for hair growth and wrinkle indications.
- Lead the evaluation process of laser microdissection microscope (LDM) technology and its application in the drug discovery research.

**1999-2000**

**Genomic Solutions Inc.**

**Ann Arbor, MI**

Senior Application Scientist

- Develop and validate protocols for cDNA biochip production process, including slide coating, cDNA library preparation, gene chip printing, post-printing processing, cDNA fluorescent probe (Cy3 and Cy5 labeled) preparation, hybridization, washing, and imaging.
- Gene expression profiling analysis using GeneTAC integrator software
- Establish and validate protocols for RNA amplification to enhance detection capabilities when limited amount of RNA is available
- Collaborate with Molecular Probes to develop alternative fluorescent labeling protocols
- Manage customer interface of functional genomic products
- Develop and teach microarray training workshop

**1992-1999**

**University of Michigan, Medical School**

**Ann Arbor, MI**

Senior Research Associate, National Gene Vector Laboratory (NGVL), 1996-1999

Director, Gary Nabel

- Supervision of a production team for purification of the clinical grade plasmid for human trial (gene therapy) under cGMP environment
- Managing and coordinating the production processes in compliance with FDA guidelines

Postdoctoral Fellow, David Ginsburg's Laboratory, Howard Hughes Medical Institute, 1992-1996

- Establishing a vitronectin deficient mouse model
- Studying the function of vitronectin by characterization the phenotype of vitronectin deficient mouse

**1990-1992**

**Yale University, School of Medicine**

**New Haven, CT**

Postdoctoral Fellow, Leon E. Rosenberg's Laboratory, 1990-1992

- Purification of groEL (chaperonins) and groES protein
- Establishing an in vitro folding and assembling assay for ornithine transcarbamylase
- Studying the mechanism of folding and assembling of the ornithine transcarbamylase using the in vitro assay

## **PUBLICATIONS**

- Arcaroli JJ, Tai WM, McWilliams R, Bagby S, Blatchford PJ, Varella-Garcia M, Purkey A, Quackenbush KS, Song EK, Pitts TM, Gao D, Lieu C, McManus M, Tan AC, **Zheng X**, Zhang Q, Ozeck M, Olson P, Jiang ZQ, Kopetz S, Jimeno A, Keysar S, Eckhardt G, Messersmith WA. A

Notch1 Gene Copy Number Gain is a Prognostic Indicator of Worse Survival and a Predictive Biomarker to a Notch1 Targeting Antibody in Colorectal Cancer (2016). *Int J Cancer*. 2016 Jan 1;138(1):195-205. doi: 10.1002/ijc.29676. Epub 2015 Jul 22.

- Giovanni Martinelli, Vivian G. Oehler, Cristina Papayannidis, Rachel Courtney, Naveed Shaik, Xiaoxi Zhang, Ashleigh O'Connell, Karen R MaLachlan, **Xianxian Zheng**, Jerald Radich, Michele Baccarani, Hagop M Kantarjian, Mendy J Levin, Jorge E Cortes, Catriona Jamieson. Treatment with PF-04449913, an oral smoothened antagonist, in patients with myeloid malignancies: a phase 1 safety and pharmacokinetics study. *The Lancet Haematology*: Vol 2, No. 8. 2015
- C Papayannidis, D J DeAngelo, W Stock, B Huang, M N Shaik, R Cesari, **X Zheng**, J M Reynolds, P A English, M Ozeck, J C Aster, F Kuo, D Huang, P D Lira, K R McLachlan, K A Kern, G Garcia-Manero and G Martinelli (2015): A Phase 1 study of the novel gamma-secretase inhibitor PF-03084014 in patients with T-cell acute lymphoblastic leukemia and T-cell lymphoblastic lymphoma. *Blood Cancer Journal* 2015 25;5:e350. Epub 2015 Sep 25.
- Kai Wang, Qin Zhang, Danan Li, Keith Ching, Cathy Zhang, **Xianxian Zheng**, Mark Ozeck, Stephanie Shi, Xiaorong Li, Hui Wang, Paul Rejto, James Christensen, Peter Olson. PEST domain mutation in Notch receptors comprise an oncogenic driver segment in triple-negative breast cancer sensitive to a  $\gamma$ -secretase inhibitor. *Clinical Cancer Research* (2015): January 6, 2015; DOI: 10.1158/1078-0432.CCR-14-1348
- Andrew Wagner, Wells Messersmith, M. Naveed Shaik, Sherry Li, **Xianxian Zheng**, Karen McLachlan, Rossano Cesari, Rachel Courtney, Wendy Levin, and Anthony El-Khoueiry. A Phase 1 study of Pf-04449913, an oral Hedgehog inhibitor, in patients with advance solid tumors. *Clinical Cancer Research* (2015): 21(5) March 1 2015
- Wells A. Messersmith, Geoffrey I. Shapiro, James M. Cleary, Antonio Jimeno, Arvind Dasari, Bo Huang, M. Naveed Shaik, Rossano Cesari, **Xianxian Zheng**, Jennifer M. Reynolds, Patricia A. English, Karen R. McLachlan, Kenneth A. Kern, Patricia M. LoRusso. A Phase I, Dose-finding Study in Patients with Advanced Solid Malignancies of the Oral Gamma-Secretase Inhibitor PF-03084014. *Clin Cancer Res*; 21(1) January 1, 2015
- Zhang CC, Pavlicek A, Zhang Q, Lira ME, Painter CL, Yan Z, **Zheng X**, Lee NV, Ozeck M, Qiu M, Zong Q, Lappin PB, Wong A, Rejto PA, Smeal T, Christensen JG (2012): Biomarker and Pharmacologic evaluation of the  $\gamma$ -secretase inhibitor PF-03084014 in breast cancer models. *Clinical Cancer Research*; 18(18) September 15, 2012.
- Hook KE, Garza SJ, Lira ME, Ching KA, Lee NV, Cao J, Yuan J, Ye J, Ozeck M, Shi ST, **Zheng X**, Rejto PA, Kan JL, Christensen JG, Pavlicek A. (2012): An integrated genomic approach to identify predictive biomarker of response to the Aurora Kinase inhibitor PF-03814735. *Mol Cancer Ther*; 11(3) March 2012
- Dave W. Fry, Patricia J. Harvey, Paul R. Keller, William L. Elliott, MaryAnne Meade, Erin Trachet, Mudher, Albassam, **Xianxian Zheng**, Wilbur R. Leopold, Nacy Prior, Joseph Repine, Scott VanderWel, Hairong Zhou, Derek Sheehan, Peter L. Toogood (2004): Specific Inhibition of Cyclin-Dependent Kinases 4/6 Causes Regression in Human Tumor Xenografts. *Molecular Cancer Therapeutics*. 2004; 3 (11)1427-37
- E. P. Kaldjian, M. J. Cameron, S. Sadis, **X. Zheng**, M. Meade, W. R. Leopold, W. Elliott, D. Fry (2004): Effects of CDK4/6 inhibition by PD 032991 on the expression of survivin protein in human colon cancer xenografts. *American Association of Cancer Research*. Orlando, FL, Mar 27-31

- J., Milad, MA., **Zheng, X.** Sahi, J., Rose, KA., Wang, HB., Stilgenbauer, L., Gilbert, D., Jolley, S., Stern, RH., Lecluyse, EL. (2003): Avasimibe induces CYB3A4 and multiple drug resistance protein 1 gene expression through activation of the pregnane X receptor. *The Journal of Pharmacology and Experimental Therapeutics*. 306:1027-1034.
- Wen, YH., Sahi, J., Ruda, E., Kulkarni, S., Rose, K., **Zheng, X.**, Sinclair, JF., Cai, H., Strom, SC., Kostrubsky, VE. (2002): Effects of bergamottin on human and monkey drug-metabolizing enzymes in primary cultured hepatocytes. *Drug Metabolism and Disposition*. 30:977-984.
- Sahi, J., Black, CB., Hamilton, GA., **Zheng, X.**, Jolley, S., Rose, K., Gilbert, D., Lecluyse, EL., Sinz, MW. (2003): Comparative effects of thiazolidinediones on in vitro P450 enzyme induction and inhibition. *Drug Metabolism and Disposition*. 31: 439-446
- Fay WP, Parker AC, Ansari MN, **Zheng X**, and Ginsburg D (1999).: Vitronectin inhibits the thrombotic response to arterial injury in mice. *Blood* 93:1825-1830
- Eitzman, D.T., McCoy, R.D., **Zheng, X.**, Fay, W.P., Shen, T., Ginsburg, D., and Simon, R.H.(1996): Bleomycin-induced fibrosis in transgenic mice that either lack or overexpress the murine plasminogen activator inhibitor-1 gene. *J. Clin. Invest.* 97:232-237.
- **Zheng, X.**, Thom, L.S., Camper, S.A., Samuelson, L.C., and Ginsburg, D (1995): Vitronectin is not essential for normal mammalian development and fertility. *Proc. Natl. Acad. Sci. USA* 92:12426-12430.
- **Zheng, X.**, Rosenberg, LE., Kalousek, F., and Fenton, WA (1992): GroEL, GroES and ATP-dependent folding and spontaneous assembling of ornithine transcarbamylase. *J.B.C.* 268:7489-7493.
- **Zheng, X.**, Shoffner, J.M., Voljavec, A.S., and Wallace, D.C. (1990): Evaluation of methodologies for assaying OXPHOS enzyme activities in mitochondrial myopathy patient muscle biopsies. *Biochem. Biophys. Acta* 1019:1-10.
- **Zheng, X.**, Shoffner, J.M., Lott, M.T., Voljavec, A.S., Krawiecki, N.S., Winn, K., and Wallace, D.C. (1989): Lethal infantile mitochondrial myopathy: evidence for a nuclear mutation affecting respiratory complex I+IV. *Neurology* 39:1203-1209.
- Wallace, D.C., Shoffner, J.M., **Zheng, X.**, Lott, M.T., Singh, G., and Krawiecki, N.S. (1989): Mitochondrial encephalomyopathies: diseases of two genomes. *Cell. Mol. Biol. Mus. Dev.* 987-1009.
- Wallace, D.C., **Zheng, X.**, Lott, M.T., Shoffner, J.M., Hodge, J.A., Kelly, R.I., Hopkins, L.C. (1988): Familial mitochondrial encephalomyopathy (MERRF): genetic, pathophysiological and biochemical evidence for a mitochondrial DNA mutation. *Cell* 55:601-609.

#### NATIONAL MEETING PRESENTATIONS:

- **Oral Presentation**  
2015 annual meeting of American Association of Cancer Research (AACR)  
Oral presentation titled: Molecular mechanisms of Fulvestrant and Palbociclib combinatorial efficacy
- **Poster presentation**
  - 1 **Xianxian Zheng**, Ping Jiang, Conglin Fan, Wei Lu, Jack Li, Jim Cavalcoti, Robert Dunstan., Steve Madore, Zengquan Wang. Genomic analysis of thyromimetic MOA in stimulating hair growth – insight into the involvement of the Wnt signaling pathway and identification of

potential biomarkers for PF-00277343. Poster and oral presentation in Society of Investigative Dermatology meeting in 2005.

- 2 S. Sadis, **X. Zheng**, M. Meade, C. Lewis, M. Molloy, L. Fleischer, S. J. Madore, L. Xi, M. Robinson, E. Kaldjian, W. Elliott, W. R. Leopold, and D. W. Fry. Gene expression changes linked to efficacy in human tumor xenografts treated with the CDK4/6 inhibitor PD0332991. Poster presentation in American Association of Cancer Research. Orlando, FL, Mar 27-31, 2004.
- 3 Phase 1 dose-escalation study of Pf-04449913, an oral Hedgehog inhibitor in patients with select solid tumors, EORTC 2012

## **AWARD**

- Pfizer 2006 **Upjohn** award recipient for innovation.
- Brown-Coxe Fellowship, Yale University, 1991-1992.
- National Research Science Award (NRSA), 1994-1996.
- Brown-Coxe Fellowship, Yale University, 1991-1992.

## **Kurtis Y Nakamura**



### **Professional Summary**

Pharmacy supervisor for CVSHealth/Longs Drugs

Licensed pharmacist (Doctor of Pharmacy, 2009)

Responsible for 14 Longs pharmacies in Central/West Oahu and 4 Longs pharmacies on Kauai

Duties Include:

Managing employee performance

Executing third party audits at store level

Resolving customer issues

Maintaining recordkeeping compliance

Cascading company initiatives

Partnering with DEA and NED to investigate controlled drug loss issues

### **Professional Experience**

Pharmacy Intern—Longs Drugs, 02/2009 to 04/2009

Staff Pharmacist—Longs Drugs, 06/2009 to 03/2013

Pharmacy Manager—Longs Drugs, 03/2013 to 06/2014

Pharmacy Supervisor—Longs Drugs, 06/2014 to present

### **Professional Licenses**

Hawaii Pharmacist License Ph-2937 (exp 12/31/2017)

### **Education and Training**

Doctor of Pharmacy: University of the Pacific—Stockton, CA



## Andy Williams

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### About

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Andy Williams is the President and CEO of Medicine Man in Colorado. He is a veteran of the US Army, and served three years as a Cavalry Scout in the 3rd Infantry Division. He went on to earn a Bachelor of Science degree in Industrial Engineering from the University of Southern Colorado in Pueblo, CO. Andy has worked in a wide range of manufacturing industries as an industrial engineer, and in leadership positions. He is a lifelong entrepreneur.

In 2009 the Ogden letter was published stating the Department of Justice would not utilize their resources to prosecute those individuals following state marijuana laws. That was the call to a new opportunity in the marijuana industry for Andy and his brother, Pete Williams. In December of 2009 they launched Medicine Man with the concept of being the Costco of marijuana. Six years later Medicine Man is now a ██████████ corporation and has branched out to assist start up marijuana companies and grow facilities across the country with their consulting company, Medicine Man Technologies. They are known as industry leaders throughout the United States.

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## Greg Schlick



### Experience

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#### **NASA/Ames Research Center's Ecosystem Science & Technology Branch 1990 - Present**

The Biospheric Science branch is guided by the NASA strategic plan and vision to advance, communicate and transfer scientific knowledge and understanding of the Earth system through observation to: develop and deploy enabling technologies, inspire and motivate the nation's students and teachers, engage and educate the public, and advance the scientific and technological capabilities of the nation. Currently conducting the following experiments in his labs:

- Rate of acetone production under stress and non-stress conditions of several genera of canopy level trees
- Uptake rate and mechanism of inorganic arsenic hyper-accumulation by *Pteris vittata*
- LED lighting for controlled environment agriculture
- Effects of lighting on plant development and morphology
- Effect of elevated CO<sub>2</sub> levels on the floral development of yellow star thistle
- Identification and development of potential new crops for controlled environment production
- Utilization of forward osmosis as a technology for aquaculture waste water remediation
- Hydrogen gas production by an aquatic plant (*Valisneria sp.*)
- Spectral imaging and characterization of several invasive plant species non-endemic to the greater San Francisco Bay Delta System

#### **Apache Technology, Inc.**

**2008 - Present**

Apache Tech serves the indoor, controlled environment and greenhouse lighting sectors in aerospace, agriculture, education, and the research and development markets, where it brings its state of the art design, engineering and production capabilities directly to its customers, both commercial and private. Apache Tech has developed the highest output and most energy efficient LED plant growth light in the world today, achieved with its active and growing participation in all the major aspects of the industry.

#### **CELSS (Controlled Environmental Life Support Systems) group**

**1997 - Present**

#### **CAAP program (CELSS Antarctic Analog Program)**

**1997 - Present**



**Education**

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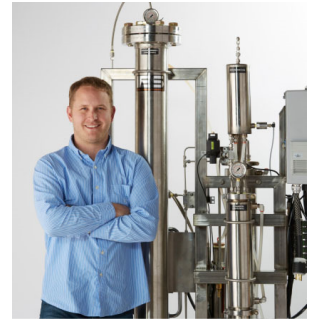
<b>Masters of Science in Biological Science</b>	<b>1987 - 1990</b>
San Jose State University	
<b>Bachelor of Science</b>	<b>1983 - 1987</b>
San Jose State University	

**Personal**

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# Kelly Knutson



## Experience

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### **CanCore Concepts, Chief Technology Officer (CTO)**

**2013 – Present**

CCC provides services to operations and organizations looking to obtain licensing in the Medicinal and retail Cannabis space. The Company was established with the goal of developing and licensing standard operating procedures and intellectual property (such as trademarks, trade names and know how) within the Cannabis spaces and providing professional consulting services.

### **Isolate Extraction Systems LLC, Chief Executive Officer (CEO)/ Founder**

**2012 - Present**

IES is a manufacturer of fully certified and peer reviewed carbon dioxide based extraction equipment. The company was established with the goal of creating systems that are easily operated yet allow for a wide spectrum of parameters allowing for easy production of more diverse compounds than any other system on the market.

All IES extractors incorporate a fully automated integral control systems making them capable of maintaining specific parameters through the entire process which increases the consistency of the final products reducing the cost and time involved with post processing. IES automation was developed to reduce the need for expensive labor when oil production is the main goal, yet allow the high end user to explore a wide array of parameters and finished products.

### **The Healing Leaf LLC, Director of Operations**

**2011/ 2012**

a State of Colorado licensed Medical Manufacturer of Infused Products ("MMIP")

### **Colorado Bottling Company LLC, Director of Operations**

**2010/ 2011**

a State of Colorado licensed Medical Manufacturer of infused products ("MMIP") Colorado Bottling Company was created as an intellectual property and brand development company specializing in nutraceutical product development, branding and marketing in the Medicinal Cannabis market of Colorado.

## Education

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**Degree from Wyoming Technical Institute in Fabrication and Chassis Engineering**

**2007**

**Certificate from Colorado State University in Construction Management**

**2009**

# Wesley Y.S. Chang



## About

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Wesley Y. S. Chang is a partner in the firm of Chang Iwamasa & Chiu LLP whose practice emphasizes real estate, corporate and public finance law.

Mr. Chang is a graduate of Iolani School (magna cum laude), Stanford University (B.A., with great distinction), and the University of California at Berkeley School of Law (Boalt Hall). Mr. Chang is also a member of the *Phi Beta Kappa* honor society.

Mr. Chang is a member of the Hawaii State Bar Association, the American Bar Association, the National Association of Bond Lawyers, and the American Health Lawyers Association, and is the author of the Chapter on Ground Leases in the *1997 Hawaii Real Estate Law Manual* and of the Chapter on Bonds in the *2011 Hawaii Real Estate Law Manual* published by the Hawaii State Bar Association. Mr. Chang also served as the 2014 Chair of the Real Property and Financial Services Section of the Hawaii State Bar Association and served on the Opinion Letter Committee of the Section.

Mr. Chang is listed in *The Best Lawyers in America*®, *Chambers USA*, and *Superlawyers*.

# Andre C. La Forge



## Experience

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### **Apache Tech LED, Founder**

**June 2007-Present**

Signed the Space Act Agreement with NASA to design and manufacture LED lighting systems

Designed LED lighting systems for:

- o Stanford University's Biology Dept. Green houses
- o Utah State University Growth Chambers
- o Carnegie Institute of Science Growth Chambers
- o California Academy of Science Reptile and Aquarium chambers
- o Long Beach Public Aquarium
- o USDA Growth Chambers
- o Tanked T.V. program on Animal Planet
- o Medical Marijuana Dispensary Vertical farming light system

### **PalPilot Corporation, Sales Manager**

**February 2002 – Present**

Responsible for managing Tier 1, 2, & 3 PCB fab production programs. Increased the total corporate sales globally by 30%. Helped reorganize infrastructure of the production inside sales and design sales departments.

### **Design Solutions, Inc., Sales Manager**

**April 2001-December 2001**

Responsible for managing projects and utilizing outside resources to provide a complete turn-key solution for clientele. Increased San Jose sales volume more than 100%, and increased Arizona sales volume by more than 150%. Implemented sales training curriculums & marketing strategies, as well as created presentation materials. Reorganized the infrastructure of the design departments. Managed inside and outside sales reps.

### **Dynamic Details, Inc., Solutions Specialist/Account Manager**

**June 1999 – March 2001**

Responsible for matching groups of engineers to customer's needs. Implemented marketing strategies with management. Responsible for recruiting and training engineers. Oversee designer scheduling and quotes. Responsible for managing projects with a diverse range of technology, and utilizing available resources to ensure the project was completed time for market.

### **Paramount Construction, Sales Engineer**

**September 1990 – June 1999**

Responsible for accurately projecting material costs and labor hours for independent subcontractors. Interfaced regularly with city planning officials to obtain permits. Worked effectively to enhance development of Paramount's market share of construction business. Established and negotiated contracts for subcontractor services. Coordinated schedules of subcontractors to ensure all standards complied to code.

### **Sanmina Corporation, Sales Engineer/Design Engineer**

**July 1987 – September 1990**

Responsible for targeting prospective customers and seek repeat business. Analyzed customer's technology in order to design and manufacture a product with a high yield.

## Education

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### **AA Agriculture**

Foothill College, Los Altos, CA

**1998**

### **Electronic Design Engineer**

Foothill College, Los Altos, CA

**1986**

## Summary of Qualifications

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- Over 20 year's experience in manufacturing of electronic components to include assembly and design for consumer products mass production
- Experienced in working with UL Laboratories in meeting UL safety protocol.
- #1 global sales engineer representative for a [REDACTED] company for that last 10 years.
- Studied agricultural (greenhouse management) and successfully completed a 12- month course to be certified for electronic engineering for printed circuit boards and mechanical drafting.
- Demonstrated ability to understand, synthesize, and connect disparate aspects of business (technical, financial, operations, sales, marketing, etc.) into practical, actionable programs that focus on customer needs.
- Strong personal skills with the ability to interface with individuals at all levels.

# Carole Kai Onouye



## Experience/Community Service

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After graduating from the University of Hawaii in 1966, Carole used her degree to become a professional pianist and singer. As a professional entertainer, she performed in Waikiki, in the Reno/Tahoe/Las Vegas circuit and all over Asia.

Carole Kai is known for the annual event, The Carole Kai International Bed Race from 1974-1994 and The Great Aloha Run, started in 1985. The Great Aloha Run has given over [REDACTED] to 150+ worthy organizations in Hawaii. She has volunteered for both events.

In 1993, Carole became the executive producer and co-host of the hit Karaoke television show, "Hawaii Stars"! She and her creative partners also produced "Keiki Stars", "Chefs in Paradise", "Jan Ken Po Hawaii", "Hawaii Stars" TV Documentaries (since 2008) and, finally, The Annual Weinberg Foundation Concert for 16 years – over 1,200 shows have been aired.

Her last stage performances were with the wildly popular "Local Divas" that included the late Loyal Garner, Nohelani Cypriano, and Melveen Leed from 1998 to 2001. \*The Local Divas (sans Loyal) recently performed to a sold-out audience at the Hilton Hawaiian Village Coral Ballroom on New Year's Eve, ringing in 2012.

## Education

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**Bachelor of Music**  
University of Hawaii

**1962-1966**

## Personal

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[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

## Interest/Hobbies

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Charity, church, food and travel.





# John Strandberg

## Experience

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<b>General Manager- Hawaii Tech Support</b>	<b>Present</b>
<b>Director of Audience Development—Pacific Business News</b>	<b>2011 – 2014</b>
<b>Commercial &amp; Residential Realtor– Marcus &amp; Associates</b>	<b>2009-2011</b>
<b>General Sales Manager– Hawaii Auto Group</b>	<b>2006-2009</b>
<b>Finance Director- Saturn of Honolulu</b>	<b>2003-2005</b>
<b>IT Director- Saturn of Honolulu</b>	<b>2000-2002</b>
<b>Department Manager, Sears Roebuck</b>	<b>1990-1999</b>

## Community Affiliations

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- Board Chair Hawaii Meth Project 2014
- Board Member Arthritis Foundation of Hawaii 2013-2014
- Public Relations Director Rotary Club of East Honolulu 2014-2015
- Leadership Speaker Hawaii Jaycees 2014-2016
- Executive Advisor to FAMES 2012-2014
- Speaker Social Media Summit 2014
- Hawaii Bone Marrow Registry Annual Golf Committee 2011-2013
- Marketing Chair- Honolulu Business Network 2011-2013
- Asian American Journalist Association 2013
- Guest instructor YWCA Women's Business Development Center 2013
- Member Professional Women's Network (sponsor) 2013
- Fund Development Chair- Mothers Against Drunk Driving Hawaii-2010-2012
- Member of Honolulu Board of Realtors 2009-2012
- Member of Hawaii Association of Realtors 2009-2012
- Member of Association of Finance & Insurance Professionals 2006-2009

## Awards

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- 2010 and 2011 Aloha Aina Realtor Award Nominee
- Designated Green from National Association of Realtors
- Highest Gross Profit – New Car Dealer Group General Motors
- Highest CSI Score- New Car Auto Division General Motors
- Ambassador's Award Filipino Society Travel, fashion and food

## Personal

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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

# Hersh Singer



## About

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Mr. Singer was educated at McGill University in Montreal, Canada, in business, with majors in Marketing and International Business. Upon graduation he joined Colgate Palmolive Limited. Mr. Singer started in the Product Management department of Colgate Palmolive Canada. He was then promoted to Vice President of Marketing Colgate Palmolive Brazil. For the next six years, Mr. Singer held positions as Vice President of Marketing International, Managing Director of Germany and President and Managing Director of the English Colgate subsidiary, Helena Rubenstein. The ten years of line management experience at Colgate Palmolive provided Mr. Singer with a strong base of management and administrative skills as well as a broad range of strategic planning and implementation.

In 1979, Mr. Singer decided to move to Hawaii to raise a family, and utilize his experience in the local market. Mr. Singer moved to Hawaii as President of Maui Divers of Hawaii, where he is still a shareholder and advisor. In 1981 he entered the research and consulting business. He has been Chairman of SMS since 1986.

Mr. Singer's experience nationally, internationally and locally have encompassed all areas of management and planning. He brings extensive strategic planning experience from the national and international markets, as well as his work in Hawaii with organizations such as Duty Free Shoppers, Bishop Museum, Campbell Estate, Alexander & Baldwin, Castle & Cooke, AIG, Castle Medical Center, and many others.

# Momi Imaikalani Fernandez



## Experience

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### **Papa Ola Lokahi, Director of the Census Information Center & Data**

**2000-Present**

As Director, she disseminates Census data, information, provides training on retrieving Census data through various online tools upon request for funding mechanisms, decision-making and policy development. Through the program, she is responsible for fiscal management of subcontracts that include a wide variety of focus. Has presented at conferences, conventions, `Aha gatherings at home, on the continent, and internationally. As a CIC Steering Committee member since 2000, she has been elected to Vice Chair and has served two terms as Chairperson, as well as serving on three working groups.

### **Kaho'olawe Island Conveyance Commission, Executive Assistant**

**1994-2000**

Oversee the restoration and remediation clean-up of the island - identified as a Cultural Reserve.

### **Kaho'olawe Island Conveyance Commission, Staff**

**1991-1993**

### **Paralegal**

**1983-1991**

Family Law and traditional kuleana (access) rights

## Education

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### **Business College**

**1971**

## Summary

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She has held state and federal positions concerning the restoration and return of the island of Kaho'olawe. Ms. Fernandez currently services on an advisory board and Board of Directors for two non-profits and is active in cultural restoration projects on Maui, O'ahu, Hawai'i, Moloka'i, and Kaho'olawe since 1977.

Momi is an outrigger Hawaiian canoe paddler and surfs. 2015 marked a twenty-year anniversary in La'au Lapa'au, a graduate of the late Papa Henry A. Auwae, Po'okela, Kupuna La'au Lapa'au `O Hawai'i, who lived and shared generations of knowledge and practice in Hawaiian traditional medicine before his passing in 2000. She is also a graduate from respected Ho'oponopono practitioner, the late Aunty Malia Craver; and prayer group member, trained in the `Aha process by the late Kumu John Ka'imikaua and his late wife Kaoui. Since 2008, she has been an international member of the Continental Gathering of Original Peoples. Her four children have blessed her with seven mo'opuna.

# Denny H. Miyasato



## Experience

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### **ATM Pacific Services, Founder**

**1996-Present**

Provides and services ATMs for over 500 merchants on Oahu, Maui, Kauai and the Big Island and is presently Hawaii's largest independent ATM Company in Hawaii.

### **Video Vend, Founder**

**1981 – Present**

Registered Pacific Advertising Solutions (PAS) as a D.B.A. to commercialize digital advertising over the ATM machines. [www.pacificadsolutions.com](http://www.pacificadsolutions.com)

### **Maui Space Centers, Inc.**

**1980**

Provided video games on Maui then later on Oahu. "Video Vend, Inc." (VVI) was incorporated in 1981 in Hawaii and became Hawaii's largest amusement vending company in 1997 with games on Oahu, Maui and the Big Island

## Summary

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A proven Entrepreneur with the expertise in cash handling, security and methods of cash management.

## Personal

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### **Management and Sales**

Songwriter and composer, produced (2) albums. "Blinds of Love" and "One Size Fits All". During this period, Denny played in various venue in Waikiki like Horatio's and Kaimana Beach Hotel. Formed Edgewater Hawaii LLC and started recording original music with Dave Toma, formally with Toma/Natto and released their first CD "Seasons Change". In 2005 Edgewater released 2<sup>nd</sup> CD called "Show Me" and in 2008 released 3<sup>rd</sup> CD called "Season Change"

## **Medicine Man Technologies, Inc. Business Description**

Medicine Man Technologies Inc. (Symbol: MDCL) is a Colorado Corporation that was incorporated on March 20, 2014 in the state of Nevada. The company provides cannabis consulting providing licensing and consulting services for cannabis growing technologies and methodologies, as well as retail operations of cannabis products. The Medicine Man Licensor/Licensee relationship is founded on a strong mutual desire to deploy industry best practices, allowing our client licensees total access to our continually evolving experience and knowledge base.

Medicine Man of Denver was incorporated in 2009. The company's primary business is a 40,000 square foot cultivation facility with two retail dispensing locations servicing medical as well as adult use customers. Over the course of the last six years, the Medicine Man brand and founders team has developed extensive experience and knowledge working within a medical as well as adult use marijuana business marketplace. What began as a fledgling medical marijuana growing facility in 2009 has today evolved into a Tier III facility having regulatory oversight for 10,000 plus marijuana plants and 4,000 medical marijuana cardholders as well as a substantial adult use marketplace. With strong commitment to patient safety, strict adherence to both state and federal guidance (including the Cole and Ogden Memorandums), and the production of the highest quality medical marijuana, they have quickly become regarded as one of the nation's preeminent marijuana business industry leaders.

### **Objective**

Medicine Man Technologies and Medicine Man Production are anxious to combined their unique skills, knowledge and technologies to offer our clients a robust turnkey solution allowing them to get a strong start as cultivation and dispensary operators in the cannabis industry. We accomplish this through quality state application support, facility design, genetic consultation, cultivation husbandry practices and operations, dispensary operations, training and development, SOPs, training manuals and continued support.

Clients are granted access to Medicine Man's 6 years of cultivation and dispensary operations experience and proven methodologies essentially allowing licensees to emulate these practices in their own states. In order to streamline the cultivation process, Medicine Man has developed (and continues to improve upon) a highly industrialized cultivation methodology we refer to as a Variable Capacity, Continuous Harvest (VCCH) process. Documentation of the plant's life cycle has been aggregated through hands on experience and careful management of the entire seed to sale process. We continue to implement improvements of this overall process so that our Licensees can continue to tap into this evolving knowledge to maintain the highest standards of performance. Medicine Man's transition over the past six years to becoming a truly industrialized process has been accomplished through patience, trial and error, costly mistakes, engineering innovation, and reinvesting front end profits back into the business to fuel research and development. We believe that having the ability to tap into this aggregate experience will help our clients avoid many of the pitfalls we encountered trying to learn and refine the process.

### **Mission Statement**

Since the inception of Medicine Man Technologies, the Company's mission has always been:

- Offer quality support to our licensees through our licensure agreement in the form of application support, facility design, training and development, SOPs, manuals, training videos and continued future support.
- Provide excellent customer service through attentiveness, presence and going the extra mile.
- Knowledge sharing through our licensure network.

## **Personnel**

### **Andy Williams**

Andy Williams is the President and CEO of Medicine Man in Colorado. He is a veteran of the US Army, and served three years as a Cavalry Scout in the 3rd Infantry Division. He went on to earn a Bachelor of Science degree in Industrial Engineering from the University of Southern Colorado in Pueblo, CO. Andy has worked in a wide range of manufacturing industries as an industrial engineer, and in leadership positions. He is a lifelong entrepreneur. In 2009 the Ogden letter was published stating the Department of Justice would not utilize their resources to prosecute those individuals following state marijuana laws. That was the call to a new opportunity in the marijuana industry for Andy and his brother, Pete Williams. In December of 2009 they launched Medicine Man with the concept of being the Costco of marijuana. Six years later Medicine Man is now a [REDACTED] corporation and has branched out to assist start up marijuana companies and grow facilities across the country with their consulting company, Medicine Man Technologies. They are known as industry leaders throughout the United States.

### **Brett Roper**

Mr. Roper has an extensive background in business development, having successfully ‘shepherded’ several Form 10 and S1 filings as well as NASDAQ up listing efforts, most recently co-founding Medicine Man Technologies, a unique cannabis business consultant and advisory service provider. Mr. Roper has a substantial amount of RE based experience, managing acquisition, interim holding, and disposition of substantial industrial properties in the 50,000 to 400,000 SF range and is active in providing design insights for cannabis related property deployment. Mr. Roper has been responsible for management of a national marketing program for a regional RE developer having relationships with SIOR, NAI, CORFAC Global, NAIOP, and other real estate organizations across the country. Mr. Roper has served in a number of advisory capacities to other pre-public and public companies including corporate development, strategic initiative refinement, business turnaround, service as an independent board member, and management of investor relations fundamentals. His extraordinary background has allowed him to become a well-rounded ‘quiet advisor’ to many companies as well as investors in the Cannabis business space.

### **Marc Harvill**

Mr. Harvill has a background in pharmacy operations both in the manufacturing and retail space, with more than 10 years of experience. He holds a B.A in Marketing and Spanish from PSU and an M.B.A from Washburn University. Prior to joining Medicine Man Technologies, Marc worked for one of the largest privately operated pharmacy technology companies in the country, specifically focused on training and development, hardware and software testing and quality



assurance. Marc also works for a small publicly traded company in a research and operational capacity.

### **Matt Best**

As Licensing Coordinator at Medicine Man Technologies, Matt is responsible for day to day management of license agreements and client relationships for the company. He holds a B.A. in Communication and Integrated Marketing Communications from the State University of New York, College at Geneseo, a small liberal arts college in Upstate New York. Prior to joining MMT in 2015, Matt worked as a Media Supervisor at TDA\_Boulder, a full-service advertising agency in Boulder, CO. In this capacity, Matt oversaw the media planning and buying team and was responsible for client relationships across local, regional, and national media accounts. Matt is an avid skier and enjoys time spent within the National Parks, away from the hustle and bustle of the Mile High City.

### **Carrie Roberts**

Carrie Roberts is a creative visionary with an entrepreneurial spirit. She has a Bachelor of Arts degree in Sociology and Criminal Justice from Colorado State University. She has 13+ years of entrepreneurial business experience and began the first Customer Experience Management Company focused exclusively on the cannabis industry in 2014. She has a strong business background in strategic consulting, including business planning and strategy development, as well as expertise in marketing, business development and customer experience management. As a former Colorado POST Certified law enforcement officer Carrie is on the speakers' bureau for LEAP (Law Enforcement Against Prohibition), speaking to both policy makers and the public on drug policy reform measures. She is also on the national Retail Committee for FOCUS (Foundation of Cannabis Unified Standards), an independent, non-profit, third party source for the creation of cannabis standards and monitoring of the cannabis industry.

## **CanCore Concepts, Inc.**

### **Corporate History**

The Company was originally incorporated as CCC Ltd., in the state of Colorado on March 11, 2013. On October 9, 2014, CCC Ltd. merged with and into CanCore Concepts Inc., a corporation organized under the laws of Colorado. CanCore Concepts Inc. is the surviving entity of this merger.

### **Mission**

Providing legal medical and retail Cannabis operations with the highest quality Consulting, IP Licensing and Packaging solutions.

### **Business Overview**

The Company is in the business of providing consultation services to licensed operations and organizations looking to obtain licensing in the Medicinal and retail Cannabis space. The Company was established with the goal of developing and licensing standard operating procedures and intellectual property (such as trademarks, trade names and know how) in the Cannabis spaces and providing professional consulting services.

The Company never possesses manufactures, dispenses, markets or distributes any cannabis or its psychoactive compound, tetrahydrocannabinol (THC). The SOP's have been developed over years of research and development contracts with licensed manufacturers along with the executive teams 15+ year-combined experience operating licensed entities in the State of Colorado.

### **Company Goals and Objectives**

The Company's primary goals are to support the development and introduction of state-compliant packaging, intellectual property and standard operating procedures to help our consultees and/or licensees obtain State approved licenses and thrive in the medicinal and adult-retail use Cannabis space. The Company also aims to develop valuable intellectual property for those in the Target Market, whether medicinal or adult-retail use. The Company achieves its goals through the implementation of efficient business models, a strong research and development, public education campaigns, consumer awareness programs and an adherence to high ethical standards.

### **Business Philosophy**

In addition to developing its packaging, intellectual property and standard operating procedures, the Company also focuses on educating the public and creating awareness programs on topics relating to the cannabis industry. The Company is a founding member of the ATACH, founded to promote compliant expansion, protection, and preservation of incorporated businesses and stakeholders engaged in the legal trade of industrial, medical, and recreational cannabis and hemp based products (ATACH.org).

## **Operational Consulting**

In order to standardize licensee operations, the Company will aid each licensee in implementing the Company's manufacturing and distribution model. Each licensee's executive team will also work with its respective senior consultant in an effort to optimize production and efficiency. The Company's business procedures were designed specifically to ensure that the Company would never possess, manufacture, dispense, market or distribute any controlled substance. Rather, the Company focuses on the development of compliant product development, packaging and standard operating procedures related to the operation of various business activities including but not limited to: accounting; handling of hazardous materials; licensing; compliance, manufacturing distribution, loss prevention and human resources.

## **Operational History**

Over the past 3 years, the Company has provided consultation services to medical Cannabis applicants and licensed organizations in the following States: Arizona, Colorado, Illinois, Oregon, Nevada and New York.

## **Executive Team**

### ***Erik Knutson, Chief Executive Officer, Director and Chairman***

Since March 2013, Mr. Knutson has been the President, Chief Executive Officer and a director of the Company and as a Director of SeroVita Holding Corp, a holding company that develops, through its portfolio companies, Medical Cannabis properties to provide relief from those experiencing chronic medical maladies and to explore ventures that commercialize the healthful properties of Cannabis. SeroVita Holding Corp. is the majority shareholder of the Company. From December 2012 to March 2013, Mr. Knutson was a Director at Isolate Extraction Systems LLC ("IES"). Mr. Knutson is currently on the advisory board of IES. From February 2010 to December 2013, Mr. Knutson was the Director of Operations and President of Superum Inc., an intellectual property and brand development company specializing in nutraceutical product development, branding and marketing in the Medicinal Cannabis market of Colorado. Mr. Knutson received his Bachelor's Degree in Business Management from the University of Colorado in 2009.

In 2013, Mr. Knutson also co-founded Denver Packaging Company ("DPAC"), which is a licensed Colorado Medical and Adult-Retail Cannabis Manufacturing company. In 2014 DPAC was recognized as one of the first manufacturing facilities in the City of Denver to pass all Health and Safety inspections with zero critical fails and continues to operate as one of the States most compliant facilities. Additionally, he is a co-founder and President of the American Trade Association for Cannabis and Hemp ("ATACH").

### ***Aubrey Kiilsgaard Additon, Chief Financial Officer***

Since November 2014, Mr. Additon has served as CFO of the Company. From August 2005 to August 2014, Mr. Additon served as the Chief Financial Officer of Markel Homes Construction Company, a residential home development company. Mr. Additon was employed by KPMG and Morgan Stanley between 2003 and 2005, prior to his appointment as CFO at Markel Homes. Mr. Additon received his Bachelor's Degree in Business Management with concentrations in Finance and Accounting from Boston University in 2003.

Aubrey has over eight years of financial leadership in strategic asset acquisition and development with [REDACTED] of aggregate AUM and oversight [REDACTED] of Operating Credit Lines. He started his career as an associate of KPMG, in Denver, Colorado. As CFO of Markel Homes, Mr. Additon oversaw the financial reporting of numerous entities (LLCs, S-Corps and C-Corps). Provided senior executive support as key member in the strategic asset acquisition and development process. Supervised and trained multiple Accounting Departments; produced investor and partner communications, and developed budgeting and cost management programs. Co-Directed the company's IT Department and administered the company's 401(k) and healthcare plans.

***Scot Knutson, Chief Operations Officer***

Since September 2014, Mr. Knutson has served as COO of the Company and oversees all consulting and licensing operations for the company. Mr. Knutson is a Marine Corps veteran. During his eight year service Sgt. Knutson initially served as an Amphibious Assault Vehicle Crew Chief, prior to being promoted to S-3 Operations NCO in charge of Battalion level operations planning for five companies (1,600 Marines). Sgt Knutson switched Military Operations Specialties upon his selection for the Elite Marine Corps Explosive Ordinance Program (EOD). During his service with 2<sup>nd</sup> EOD Company participated in the planning of MEF level operational planning across RC southwest working with Multinational forces to combat the IED threat and develop new TTPs and SOP's. He has completed over 30 DOD, FBI, ATF and DOE courses including, expeditionary warfare planning, Command Post of the Future (CPOF), HME Lab courses at Los Alamos, Military Operations in Urban Terrain (MOUT), Combat Life Saver course and is a graduate of the USMC Staff Academy. He has participated in and conducted counter IED operations training for various Joint Multinational Forces. Planned the scheme of maneuver for the final company field exercise to certify and validate EOD response element team leaders in support of OEF, During his service Sgt. Knutson's personal awards include the Navy Commendation Medal with Combat Valor, 2 Naval Achievement Medals, Combat Action Ribbon, 3 Good Conduct Medals, 2 Unit Citations and still holds a Top Secret SSBII Clearance.

Prior to joining the military Sgt. Knutson was a former Director of Operations with Ideal Landscape and Construction LLC. In his role with Ideal, he was responsible for all facets of project management including bidding, scheduling and customer relations. He holds a Construction Management Graduate Certificate from Colorado State University and is currently enrolled in the College of Professional Studies MBA Program at Regis University with an expected graduation in 2018.

***Kelly Knutson, Chief Technology Officer & Director***

In December 2012, Mr. Knutson founded IES, a fully certified and peer reviewed manufacturer of medium sized and entry level extraction equipment specializing in the extraction of botanical oils for use in business segments such as medical, cosmetics and food. Mr. Knutson also co-founded Denver Packaging Company. During 2012, he was the Director of Operations for The Healing Leaf, LLC; a State of Colorado licensed Medical Manufacturer of Infused Products (“MMIP”). From August 2010 to September 2011, Mr. Knutson served as Director of Operations for Colorado Bottling Co., LLC; a State of Colorado licensed MMIP. Mr. Knutson received his Bachelors degree from WyoTech Institute in 2007 and holds a post-graduate Certificate in Management from Colorado State University.

***Brant Nicholason, Vice President of Marketing***

From January 2012 to June 2014, Mr. Nicholason was an illustrator and designer at Superum, Inc., a healthcare company. From February 2009 to December 2011, Mr. Nicholason ran his own design firm, Atomic Idea. From 1998 to 2009, Mr. Nicholason worked as an illustrator and designer for Fineline Graphics, a print, design and vinyl shop. From 1989 to 1990, Mr. Nicholason worked as an illustrator and designer at J Walter Thompson, a marketing communications brand company, and from 1991 to 1996, Mr. Nicholason worked as an illustrator and designer at Warner Brother Studios. From 1996 to 1998, Mr. Nicholason worked as a design and illustration consultant for Wet Works studios. Mr. Nicholason received a High School Diploma from Arvada West High School, Arvada, CO, in 1989. He also studied industrial design and Graphic communication at the Colorado Institute of Art.

***Thomas Maloney, Senior Consultant***

Since January 2014, Mr. Maloney has served as the Director of Licensing for the Company. Mr. Maloney’s primary responsibilities include relational oversight of all licensing and consulting agreements in addition to sales force management and training. In addition to traditional sales support, Mr. Maloney aids in investor relations and acquisitions.

From April 1981 to June 2006, Mr. Maloney was a Senior Account Executive with Baxter International Pharmaceutical, a large pharmaceutical manufacturing corporation. Mr. Maloney holds a C.M.R. from the School of Pharmacy at the University of Colorado, and he holds a Bachelor’s of Arts degree in Public Relations from Southern Illinois University, which he received in 1981. From 2006 to January 2014, Mr. Maloney was the Vice President of Operations at Sandstone Ventures, an investment fund.

Except as disclosed in the bios above, our Directors and Executive Officers have not been involved in any of the following events during the past ten years:

1. [REDACTED]

2. [REDACTED]

3. [REDACTED]

4. [REDACTED]

5. [REDACTED]

6. [REDACTED]

GreenLeaf Medicine (GLM) has a strong **plan for operating a medical marijuana dispensary in the City and County of Honolulu, including but not limited to a timeline for opening a retail dispensing location.** The six members of GLM have a combined 154 years of successful entrepreneurial business experience. They have been hands-on owners/partners in 23 businesses. Of those companies four have been sold and two where closed. There are still 18 businesses in operation today. Some of the businesses include: Hawaii Stars, Hawaiian Ice, Commercial Electric and Body Mint. The businesses started by the six members of GLM currently employ more than 450 individuals in Hawaii. At their peak, the six members provided employment through their companies to more than 5350 employees annually. They also donated more than [REDACTED] to charities over the past five years. They now bring this experience and dedication to GLM.

GLM will be a vertically integrated medical marijuana company in the City & County of Honolulu dedicated to providing safe and secure access to marijuana and manufactured marijuana products to qualified patients while ensuring the highest standard of patient, product, and public safety (*Appendices 2.3 Cultivation Plan, 2.4 Manufacturing Plan and 2.5 Dispensary Plan*). This includes mitigating and preventing diversion of marijuana and misuse of marijuana, particularly by minors and pets. In order to achieve this, GLM will commit great care to customer service and ensure that all operating procedures (*Appendix 2*), policies, and facilities are in strict compliance with Chapter 329D, HRS and Hawaii DOH Administrative Rules for Medical Marijuana Dispensaries. GLM is financially prepared to commit the same level of care and resources in regard to all phases of the planned deployment of our operation, including but not limited to; design and build out, inventory and quality control, consumer education, community outreach, security, compliance, staffing, and safe handling of marijuana, working

hand-in-hand with the Hawaii Narcotics Enforcement Division to ensure we meet the needs of patients in a timely, well executed manner.

Through arrangements with a multitude of partners including key licensing and training agreements with Medicine Man Technologies and CanCore Concepts, Inc., GLM will be fully equipped to grow, produce and sell medical marijuana and marijuana related products in order to meet the needs of our customer base (*Appendices 2.2 Facility Plan, 2.3 Cultivation Plan and 2.4 Manufacturing Plan*). GLM has retained Steel Tech, Inc. as our general contractor to lead the build-out of our production facility and will have all the engineering and architectural plans, as well as working drawings, completed by KBP Holdings VII, LLC. (*Appendix 2.9 GLM [REDACTED] Site Plans*). An application for the building permit has been submitted to the State Department of Planning and Permitting. If approved, construction will begin immediately. Our goal is to have our production facility operational in the 4<sup>th</sup> quarter of 2016 and the first retail dispensing location stocked and open for business by late December of 2016.

Considering the inherent risks that will come with the transition from the existing caregiver model to a fully integrated industrial process for commercial marijuana manufacturing, GLM will mitigate that risk through the licensing and adoption of a Variable Capacity Continuous Harvest methodology which produces high quality, consistent, safe marijuana within an enclosed indoor production facility (*Appendix 2.3 - Cultivation Plan*). GLM will deploy a world-class, sanitary production center capable of maintaining complete control of the growing and manufacturing environment (*Appendix 2.7 - Facility Photos*). GLM, along with our licensing partners has developed and will follow standard operating procedures (*Appendix 2.4.2 SOP*) for cultivation, compliance, cleanliness, testing, production controls, and work instructions which have been refined over the course of six years of operational history in Colorado. Rigorous in-



house and third-party testing will be enacted in order to determine contents and potency so that patients get a consistent product with known quantities of active ingredients. In order to mitigate compliance risks, we will deploy Hawaii specific compliance software to help us continually monitor the complex maze of rules and regulations. (*Appendix 2.8 - Compliance Software*)

Manufacturing Cannabis infused medicinal delivery systems is a mixture of pharmaceutical production and consumer product manufacturing. GLM will utilize pharmaceutical Good Manufacturing Practices (GMP) (*Appendix 2.4.6.1*) to create readily available, safe, and consistent medical cannabis products. CO2 extraction provides the capabilities for GLM to produce products that work within the product requirements set forth in HRS 329D-10 (*Appendix 2.4.6.3 Product Specification Sheets*).

Our market research indicates that medical marijuana patients are seeking excellent customer service, diversification of strains, robust manufactured product inventory, low prices, lab-tested products, and a safe, comfortable retail environment. Our retail dispensary facility will include a newly renovated, modern retail center with administrative offices (*Appendix 2.5 - Dispensary Plan Overview*). This facility will include a secure computer network, point-of-sale systems, security cameras, and décor. We will install a safe room that exceeds industry standards. We will have friendly, highly trained security guards on the premises to ensure the highest level of patient satisfaction as well as safety.

Our retail locations will each be approximately 2000 square feet which will provide ample space for a comfortable, safe, and secure location with ample interior and exterior lighting. GLM will lease two retail spaces. [REDACTED]

[REDACTED] (*Appendix 2.8 - Facility Location Map*). We are prepared to add extensive landscaping, paint the exterior, implement our security measures, and

improve the grounds. We have budgeted [REDACTED] build-out and site improvements, which will add aesthetic value to the community we build in. GLM will also utilize the standard operating procedures developed by operators with over six years experience meeting patient needs in this industry. We are focused on creating a phenomenal patient experience at GLM.

GLM intends to establish good relationships with neighboring businesses and the community. We will maintain the exterior and surrounding property to the highest standards. With an anticipation of serving over 30 patients per day by the end of year one of operation, GLM will act as an anchor operation, helping to drive additional traffic to neighboring businesses. We will become an integral part of the Chamber of Commerce of Hawaii as well as appropriate local chambers, Rotary International and other business, networking and charitable organizations as appropriate. We look forward to becoming a leader in the local communities we work in and serve.

We will install carbon filtration systems to minimize potential odor issues arising from the marijuana and manufactured marijuana products. We will have security on site throughout business hours. This will significantly benefit our neighboring business and community.

GLM will be committed to consistent and timely delivery of our products to our patients through the use of our partnership with the state-awarded seed-to-sale software system, BioTrackTHC, as well as our Variable Capacity Continuous Harvest production model. We will conduct a weekly physical inventory and investigate any variances from actual inventory. Due to our vertical integration, our grow and production facilities will provide timely, high-quality, safe and consistent medical marijuana to our retail dispensing locations. We plan to start with 10-15 marijuana strains with a product mix of Indica, Sativa, Hybrid and high-CBD varieties to enable

us to meet the needs of patients with approved debilitating medical conditions. As the market matures and with the evolution of rules, we will be able to add to our product mix as well as service new and existing conditions and demographics.

Our goal is to create a safe, positive working environment for all employees in order to build and maintain an excellent record of employee retention. We will mandate leadership training for all management personnel, provide opportunity for advancement, and provide a comprehensive benefits package for all full time employees. A unique opportunity is the ability for management and key personnel to train in Colorado within an operational medical marijuana production and retail environment, including the safe handling of all marijuana and related products. Additionally, we have internal performance monitoring programs to ensure employee performance.

The operational timeline should be considered fluid up to first day of retail sales. Primary factors affecting the scheduling elements include; 1) compliance with all Hawaii Department of Health Administrative Rules, 2) the speed at which certified laboratories are available to begin product testing, 3) construction process and schedule elements, and 4) inspections and compliance with all building department requirements including but not limited to; submittal of construction documents for permitting, interim inspections, final inspections, and issuance of a temporary as well as final certificate of occupancy. While speed to market is very important, patient, product and public safety is of paramount importance. Our timeline is aggressive and takes into account all state guidelines. As such our timeline shows GLM believes we will have a safe and consistent supply of materials in our retail dispensary by late December of 2016 (*Appendix 2.6 – Detailed Proposed Timeline*).

## **Appendix 2 - Operational Plan Overview**



**GreenLeaf Medicine, LLC**

Operational Plan Overview

For

State of Hawaii Department of Health Medical Marijuana Dispensary System Application under  
the provisions set forth in HB 321

January 2016

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**Appendix 2.1 - Business Plan Overview**

# GreenLeaf Medicine, LLC

## Business Plan

Prepared November 2015

## 2.1 Executive Summary

### Mission Statement

GreenLeaf Medicine LLC (GLM) will provide the most consistent pharmaceutical grade legal cannabis and cannabis related products in the State of Hawaii. GLM will be positioned as a leader in the Hawaii market place, through innovation, best practices and strong compliance with all state laws. GLM will become THE MODEL of a vertically integrated grower, producer and distributor. We also value and respect the traditions and practices of our host culture.

### Who We Are

GLM is a Hawaii based limited liability company started in October 2015. The six members of GLM have a combined 154 years of successful entrepreneurial business experience. They have been hands-on owners/partners in 23 businesses. Of those companies four have been sold and two where closed. There are still 18 businesses in operation today. Some of the businesses include: Hawaii Stars, Hawaiian Ice, Commercial Electric and Body Mint. The businesses started by the six members of GLM currently employ more than 450 individuals in Hawaii. At their peak, the six members provided employment through their companies to more than 5350 employees annually. They also donated more than [REDACTED] to charities over the past five years. They now bring this experience and dedication to GLM.

To engage in best practices in both the application and deployment stages of the project, GLM has licensed Medicine Man of Colorado, one of the leaders in commercial cannabis operations. GLM has also entered a licensing agreement with award-winning CanCore Concepts, Inc. as our extraction and product development specialists. To further ensure success, GLM has created an advisory council consisting of experts in the following fields: law enforcement, pharmacy, agriculture, production, community service, and information technology.



## GreenLeaf Medicine, LLC Members

**Wallace Tsuha, Jr.** – Vertical Strategies Co-Leader

**Nick W. Teves, Jr.** - Strategic Planning and Production Lead

**Edward Onouye** – Vertical Strategies Co-Leader

**Dirk Fukushima** – Project Lead

**Dale Fukushima** – Retail Lead

**Ruben Carrillo** – Branding and Marketing Strategies Lead

## Advisory Council

### 1. Law Enforcement

**Lee Donahue** - Former Chief, Honolulu Police Department

### 2. Pharmacist

**Xianxian Zheng, Ph.D.** - Pfizer, Senior Principal Scientist

**Kurtis Nakamura** - Supervisor CVS Caremark

### 3. Agriculture

**Andy Williams** - Founder, Medicine Man Technologies

**Greg Schlick** - NASA/Ames Research Center's Ecosystem Science & Technology Branch

### 4. Production

**Kelly Knutson** - Founder, CanCore Concepts

### 5. Legal

**Wesley Y.S. Chang** - Partner, Chang Iwamasa and Chiu, LLP

### 6. LED Lighting

**Andre LaForge** - Apache Tech, President/Owner

### 7. Community Service

**Carole Kai Onouye** - Carole Kai Charities (Great Aloha Run)

### 8. Information Technology

**John Strandberg** - General Manager, Hawaii Tech Support

### 9. Market Research

**Hersh Singer** - Chairman SMS Research

### 10. Hawaiian Culture

**Momi Fernandez** - Papa Ola Lokahi, A Native Hawaiian Health Board

### 11. Cash Management/ATM

**Denny Miyasato** - Founder ATM Pacific



## What We Offer

GLM's goal is to be a cutting edge, compassionate, vertically integrated commercial medical marijuana cultivator, production facility and dispensary. GLM will provide access to commercial grade medical marijuana and state approved medical marijuana products at an economical cost in a safe comfortable environment.

**Cultivation:** Working with our cultivation partner Medicine Man Technologies, Inc. GLM will grow a variety of pharmaceutical grade flower-related products in a safe, aseptic environment.



**Production:** Working with our production partner CanCore Concepts, GLM will produce the highest quality medically infused products on the market.



**Dispensary:** Working with our dispensary partner Medicine Man Technologies, Inc., GLM will focus on the delivery of the highest quality, value priced products that will continue to meet the evolving demand of an ever-widening population of patients in a safe and comfortable environment.





# Market Opportunity

The State of Hawaii recognizes by law (HRS 329D) the use of medical marijuana in treating or alleviating pain and symptoms associated with certain debilitating illnesses. While legal, nearly 13,000 qualifying patients experience barriers to obtain safe access to medical grade cannabis. GLM's mission focuses on a desire to meet the needs of Hawaii's qualified patients and their caregivers while supporting the State's regulation & oversight of the industry. GLM along with Medicine Man Technologies and CanCore Concepts will provide pharmaceutical grade cannabis and cannabis related products including capsules, lozenges, pills, oils & oil extracts, tinctures, ointments & skin lotions.

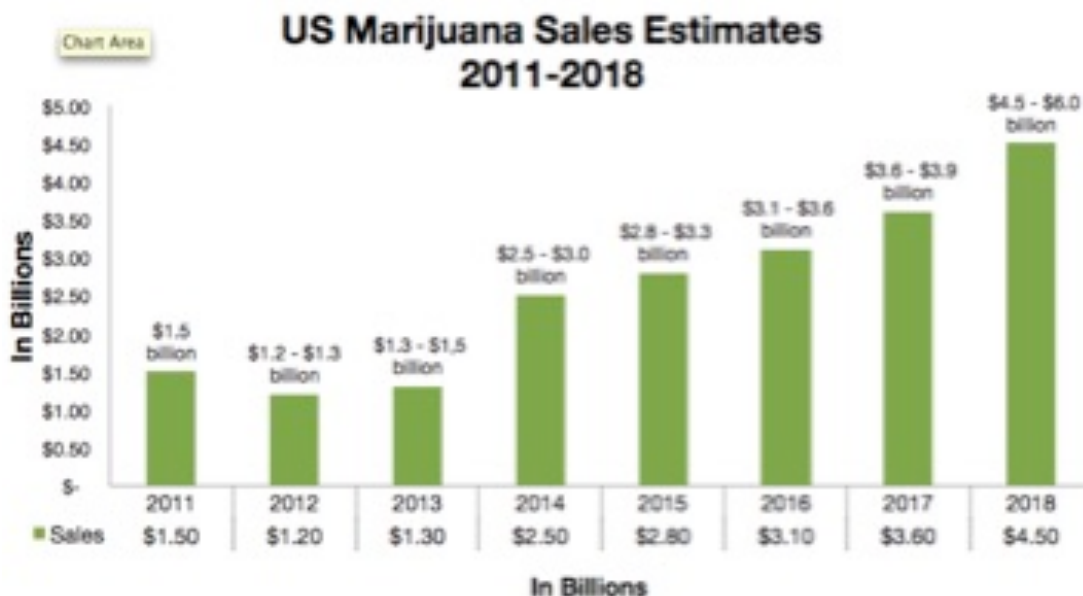


There are currently no operating medical marijuana businesses in Hawaii. GLM is prepared to be one of the three authorized licensees selected to provide medical marijuana and marijuana related products on the Island of Oahu. Our first year projections show that we will serve 700 of the estimated at 2,836 Oahu-based card holders. This represents 23% of the statewide market as of October 2015 (reported 12/1/15 by the Hawaii Depart of Health). Our target market segments include qualified patients and caregivers.

Our initial strategy is based on meeting the demand of the Oahu-based card holders, estimated at 2,836, or 23% of the statewide market as of October 2015 (reported 12/1/15 by the state medical cardholder registry program). By applying a Variable Capacity Continuous Harvest (VCCH) approach, GLM will be positioned to continue to meet the growing demand for medical marijuana and marijuana related products on a consistent weekly basis.

<b>County</b>	<b>Patient Count</b>	<b>Caregiver Count</b>
Hawaii	4,998	743
Maui	2,979	392
Oahu	2,836	377
Kauai	1,686	311
<b>TOTAL</b>	<b>12,499</b>	<b>1,823</b>

The legal marijuana industry is continuously and rapidly changing. More than ever before it's clear that cannabis is quickly and undoubtedly becoming the next great American industry. In the United States the legal marijuana industry is expected to grow 64% over the next year. Currently 23 states and the District of Columbia have some form of marijuana legalization. In 2013 the US retail cannabis sales stood at \$1.53 billion.



## Competitive Edge

GLM's patient-first mentality enables our business to stay focused on our customers' needs while producing the most consistent pharmaceutical grade cannabis at the lowest possible price. Working with industry leaders such as Medicine Man and CanCore Concepts as well as staying informed on market trends will allow GLM to become the market leader in Hawaii. Highly trained personnel with continuous development and testing of new products will keep GLM on the leading edge.

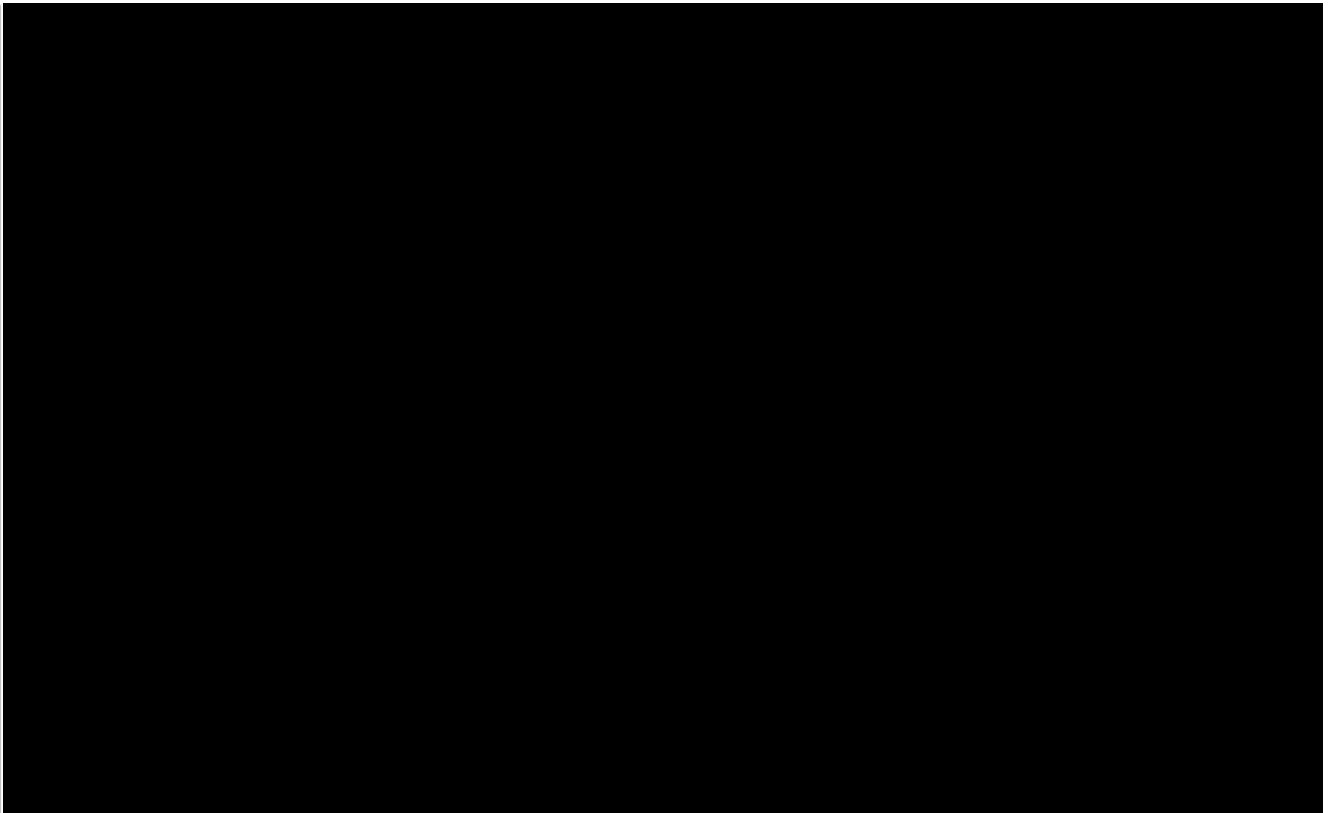
## Financial Summary

GLM has [REDACTED] in financial resources available to begin operating a vertically integrated medical marijuana business in the City and County of Honolulu. Major expenses will include leasing a manufacturing facility and applying tenant improvements to customize the structure for maximum efficiency. Tenant improvement costs are estimated to be approximately [REDACTED]. Negative cash flow would also include leasing two retail locations for five months prior to 2017. Tenant improvements could reach [REDACTED]. Additional operating costs will include payroll, facilities expenses, operating expenses, and grow/test/production expenses. These expenses may [REDACTED]. In 2017 GLM estimates a net [REDACTED]. In 2018 GLM estimates a positive cash flow [REDACTED].



In 2019 GLM forecasts an upward trend in production demand to 1,661 lbs. of dried cured flower which equals the State regulated maximum production capacity of 3000 plants per facility. In 2020 GLM forecasts customer demands continue to rise to 2033lbs of dried cure flower. In order to stay ahead of this forecasted demand, GLM will begin phase two of its business plan in 2018. Phase two includes the construction of a second manufacturing facility in the Waimanalo area of Oahu. The opening of a second 3000 plant facility will increase GLM production to reach legal maximum capacity in its forth year of operation.

GLM revenue projections are based on model estimates of 756 card holders in 2017. These cardholders are estimated to purchase a combined total [REDACTED] in flower and extraction products. With reciprocity in 2018, revenue projections will rise to [REDACTED] from flower and extraction products purchased by 1255 card holders. In 2019 GLM estimates a 33% rise in patients with revenue rising [REDACTED]. 2020 estimate exceed 2,200 patients with revenue at [REDACTED]



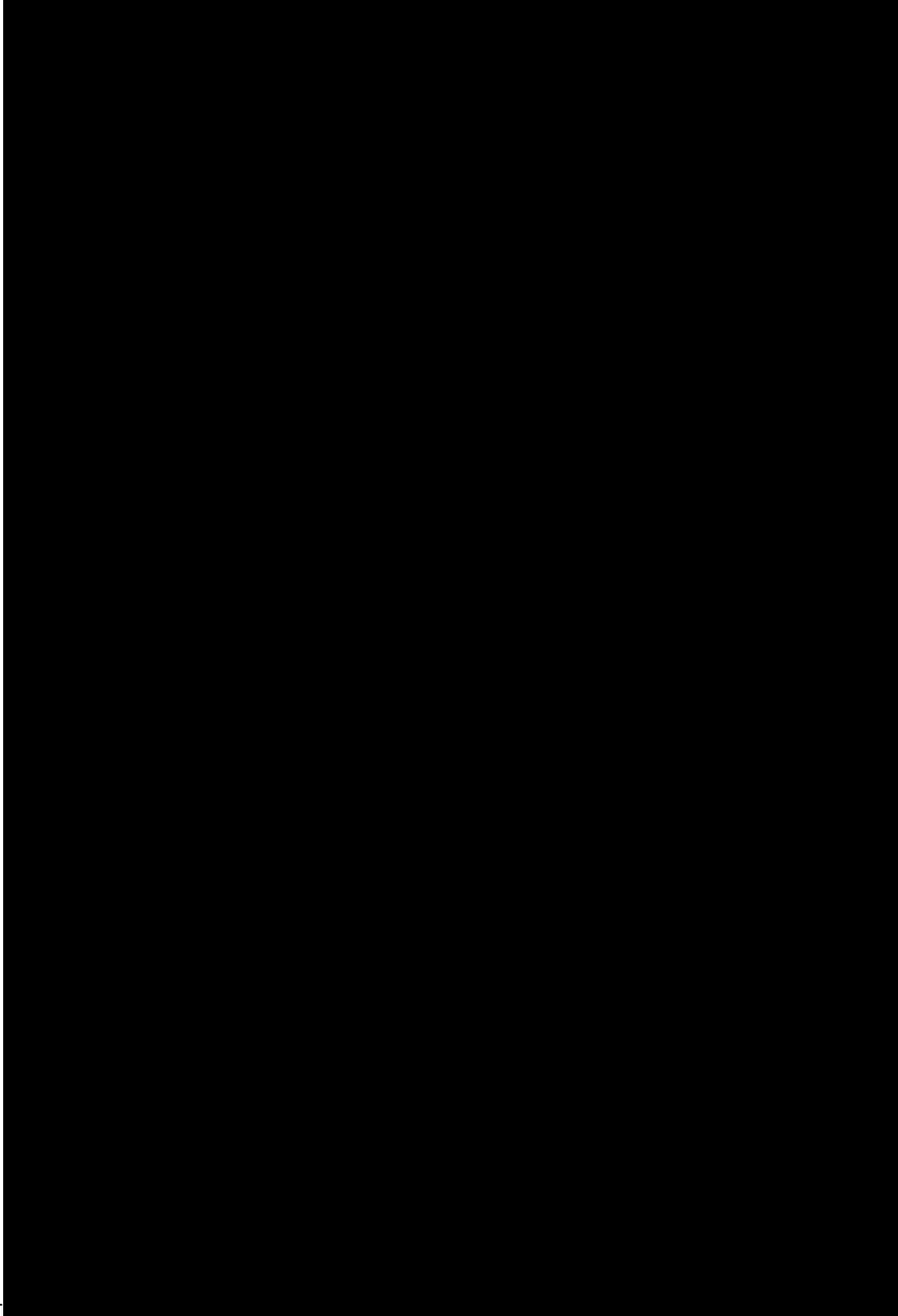
## **Appendix 2.2 - Facility Plan Overview**

The following sections provide custom floor plans designed by GreenLeaf Medicine (“GLM”) in-conjunction with Medicine Man Technologies (“MMT”), CanCore Concepts (“CCC”) and Isolate Extraction Systems (“IES”). The plans have been specifically designed in compliance with International Code Council (ICC) recommendations and accordance with the 2012 edition of the International Building Code (IBC) surrounding each of the proposed uses. Each example is intended to provide licensing administrators with a clear vision of each of the proposed GLM operational plans:

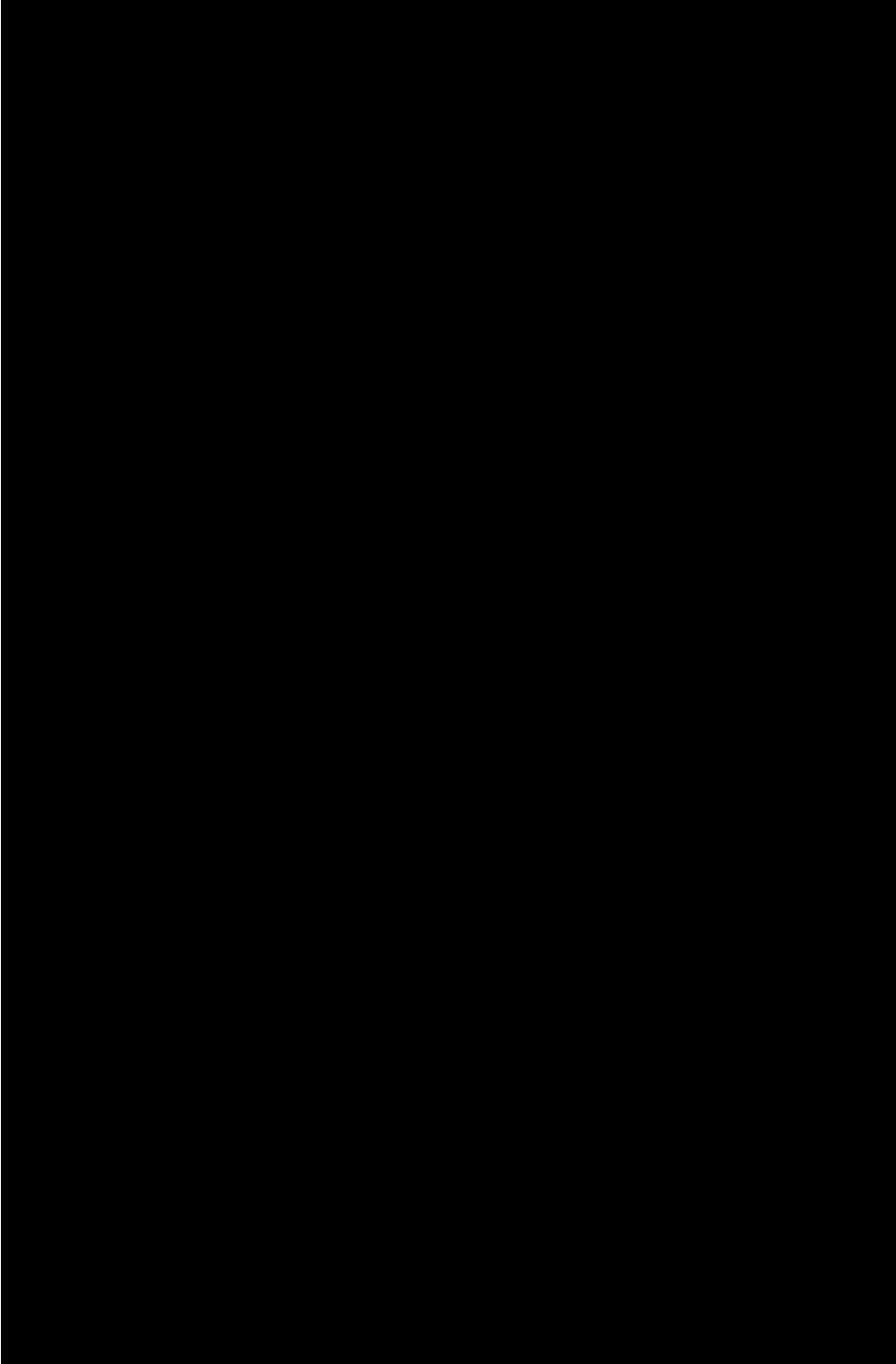




### 2.2.1 – Cultivation Facility Plan

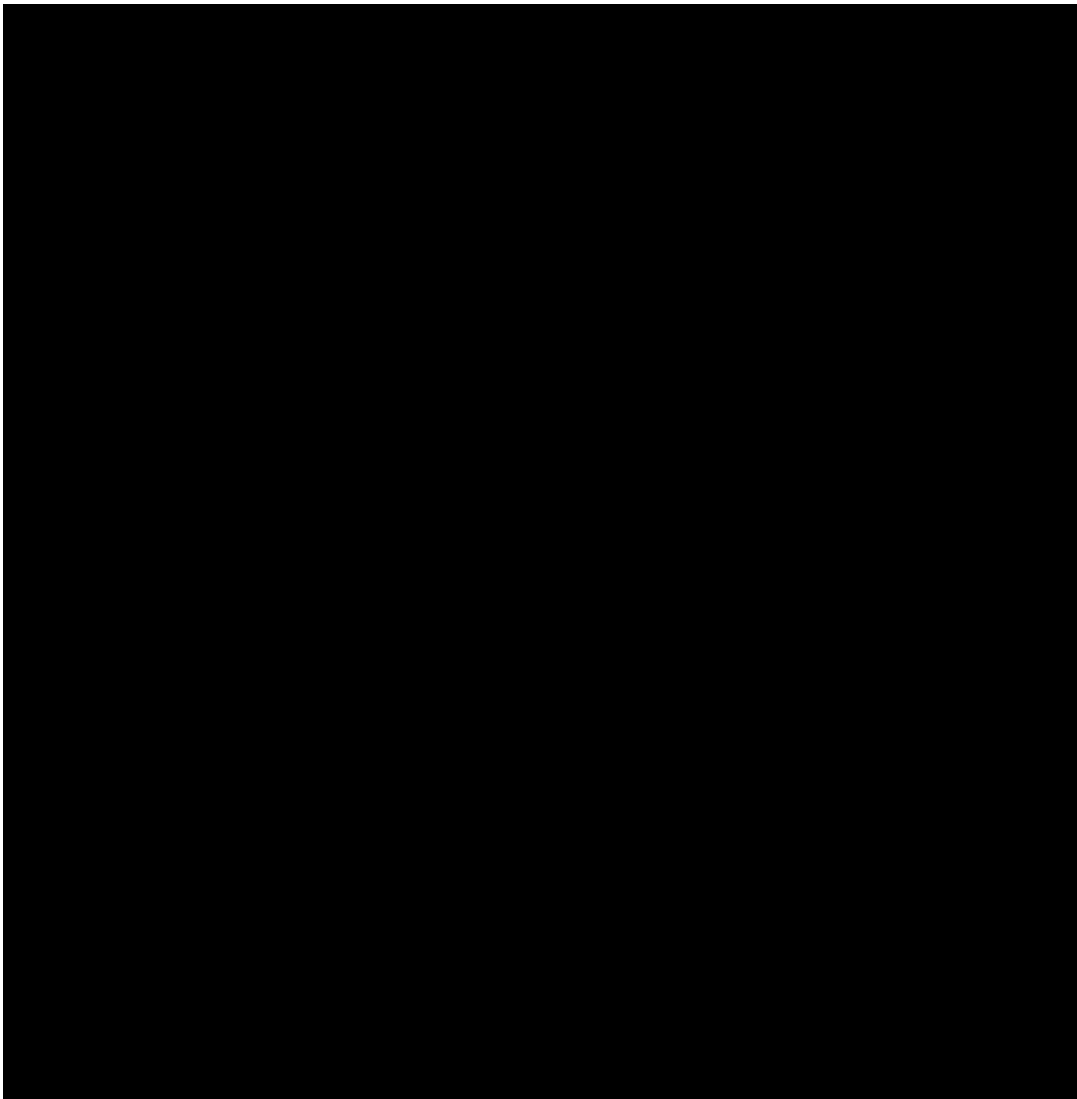


### 2.2.2 – Manufacturing Facility Plan





### 2.2.3 – Dispensary Facility Plan



## **Appendix 2.3 - Cultivation Plan Overview**

The following is an overview of the proposed GreenLeaf Medicine, LLC (“GLM”) Medical Cannabis Cultivation Plan (“MCCP”). The plan has been developed in support of GLM’s State of Hawaii Department of Health (the “Department”) Medical Marijuana Dispensary System Application under the provisions set forth in HB 321.

This plan sets forth a broad overview of the cultivation operations contemplated within the application. Certain proprietary information, including but not limited to operational procedures, recipes and formulations have been deemed as trade secrets and as such have been omitted from this application. The entire GLM Standard Operating Procedures are available to the Department upon request.

### **2.3.1 - Standard Operating Procedure (“SOP”)**

GLM will be provided with access to cultivation standard operating procedures developed and refined by Medicine Man Technologies (“MMT”) through their relationship with Medicine Man Denver (“MMD”), a fully licensed State of Colorado Medical Marijuana Cultivation Center. Within these standard operating procedures, quality assurance is of paramount concern during each phase of the plant life cycle. Standard operating procedures for the safe, secure, and successful growth and management of medical marijuana are broken out into the following key sections:

**Genetics/Plant Management:** Plant acquisition, seed propagation, cloning, mother plant husbandry and rotation, protocols for entering plant information into the inventory tracking software, and protocols for creating labels and tracking tags assigned to each plant.

**Cultivation Process:** Early, mid, and late vegetative state(s), plant transfer protocols, water management, watering schedules, hand watering techniques, nutrient management, nutrient feeding schedules, flowering, pruning, topping, cleaning and maintenance, fungicide management, pesticide management, detecting common plant afflictions (ie: powdery mold and mildews, botrytis, spider mites, aphids, etc.), and harvesting a flower system.

**Post-Harvest Process:** Hand-trimming, machine-trimming, drying, de-stemming, batching, curing, lab testing, and waste disposal.



### ***2.3.1.1 – Cultivation Training Protocol***

The cultivation training process involves engaging GLM Managers and Key Personnel of each job classification at MMD facilities in the specific training regimens needed to secure their proficiency in understanding the performance basics of the position they are being hired to fulfill. This on-site time at a licensed operational facility in Denver, CO allows them to participate actively in training at a fully functioning business which has deployed proven methodology in regard to industrial marijuana cultivation. This environment will provide trainees the ability to learn the associated tasking through repetitive exposure to the various duties they will be performing on a day-to-day basis. The on-site training intervals are broken out into the following key processes:

1. Review of specific department training videos, which are broken out by specific functions of the cultivation and production process, i.e.: cloning, clone maintenance, and flowering. Followed by a question and answer session.
2. Review of the cut sheet summaries pertaining to the training videos, which include a detailed step-by-step explanation of the duties and tasking, provided in the training videos. Followed by a question and answer session.
3. Review of specific departmental standard operating procedures within the licensed MMT Cultivation Manual, pertaining to the training videos and cut sheets. Followed by a question and answer session.
4. Onsite training within the MMD cultivation facility, in the form of:
  - a. Observation and job shadowing;
  - b. Actively asking questions to instructing grower agents;
  - c. Performing the functions within a live operating environment, through repetition;
  - d. Teach the teacher; enabling trainees within the live environment to teach the functions to the instructing grower agent while also receiving feedback
  - e. General de-briefing of the training process for group follow up and question and answer session.

This training and integration generally takes place over a period of four weeks, scheduled in one week intervals, but may be repeated as needed to the benefit of the GLM upon request. As a result of the arrangement with MMT, GLM has access to an active cultivation operation assuring



that GLM Management and Key Personnel will be getting exposure to current best practices within the medical marijuana industry. These training intervals are broken out as follows:

**Week 1:** General overview of the medical marijuana cultivation process. Example week:

*Monday:* Trained on preparing troughs with nutrients, learning feeding schedules, physically feeding marijuana plants, carefully checking each plant for afflictions or issues concerning fungus or pests to remain proactive in regard to plant management, take clippings from mother plants, create a clone, and clone maintenance.

*Tuesday:* Trained on cleaning and disinfecting a flower system, potting and transplanting marijuana plants, mixing soil, populating vegetative systems, populating flower systems, efficient plant transport between vegetative and flower rooms, creating a screen of green by manipulating plant structure, topping early and mid-vegetative plants, and pesticide management protocols.

*Wednesday:* Repeat of Monday's training exercises.

*Thursday:* Repeat of Tuesday's training exercises, and proper fungicide management protocols.

*Friday:* Repeat of Monday and Wednesday's training exercises.

All week (intermittently): Trained on properly harvesting a flower system, proper hand and machine-trimming techniques – the art of trimming the plant, including a flower, tight trim, and fan leaves. Also trained on the post-harvest drying and curing process focused primarily on quality assurance.

**Week 2:** Repeat of week 1 (overview of the medical marijuana cultivation process).

**Week 3:** Focused on specific training based on learnings achieved during the week 1 and week 2 on-site training experiences, i.e.: if an individual grower agent has trouble learning proper plant cloning techniques, the individual will spend the bulk of week 3 getting hands on experience with the cloning process.

**Week 4:** Repeat of week 3 (focused individual training process).

Within each week that trainees are on-site, there is a daily debrief and follow up question and answer session to ensure that standard operating procedures and expectations are being met.

Generally, GLM Management and Key Personnel of each team will receive feedback from the Medicine Man Denver staff that is designed to help point out both strengths as well as weaknesses as they are brought out by the training. This will allow GLM adequate time to schedule additional training follow up as needed to perform the tasks outlined in the standard



operating procedures before becoming operational. This follows the basics of planned job deployments on a practical application basis and as additionally requested once the initial training interval is completed at the Medicine Man Denver location.

Follow up training by MMD staff as needed or requested by GLM is available onsite at their facility; particularly once the grower agents have been hired as well as during the first week of operations of the business. Additional custom training as well as interim contract support for positions that may still be vacant or that were vacated abruptly are also available to GLM via the arrangement with MMT as needed.

Finally, once GLM Management and Key Personnel are sufficiently trained in regard to the standard operating procedures, designated management staff members will be responsible for internally managing this training process for any new hires. This training process will in the future take place at GLM operational facility, and trainees will have access to licensed standard operating procedures, training videos, training cut sheets, and other support materials as needed.

GLM will also be given access to all of the current standard planning elements and guidance developed by MMT including those addressing: genetics, cultivation, post-harvest, batch processing, finished goods, packaging, product alerts, product recalls, quality control, destruction, security, transportation, dispensary, patient/product education, community impact, community outreach, staffing/HR/employment, facility/building management, compliance/auditing, seed-to-sale, inventory management, emergency response protocols management, business, and testing.

Within the GLM operations center, a large staff will be required to ensure the cultivation process runs smoothly and without interruption. This robust staff will be composed of management, security, maintenance and cultivation personnel. In order to facilitate staffing for these roles, GLM will have access to the following job descriptions, including but not limited to: Accountant, General Manager, Controller, Human Resource Manager, Information Technology Supervisor, Trimming Supervisor, Security and Loss Prevention Supervisor, Operations Manager, Inventory Control Supervisor, Compliance Officer, Facility Maintenance Supervisor, Curing and Quality Assurance Supervisor, Curing and Quality Assurance Specialist, Facility Maintenance Technician, Lead Grower, Grower, Grower Trainee, Human Resource Specialist, Information Technology Technician, Pot Washer, Security and Loss Prevention Specialist, Trimming Technician, Trim Trainee.



### **2.3.1.2 - Cultivation SOP Outline**

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  - 1.6. Coordination of Plant and Facility Scheduling
  - 1.7. Seed Plant Sample Schedule
  - 1.8. Sex Determination
- Section 2 - Production Facility Throughput and Mother Plant Management
  - 2.1. Introduction
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- Section 3 - Propagation
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  - Clone Lighting
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- Section 4 - Vegetative Growth Stage
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  - 4.2 Early Veg Transplanting Protocol
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- Section 5 - Flowering Stage
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  - 2.0 Changes in Nutritional Requirements for the Flowering Stage
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  - 6.0 Artificial Lighting:
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- 1.0 Introduction
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## **Appendices**

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- 4.0 Other Preventive Maintenance Techniques

### Appendix 2: Additional Resources

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- 2.0 Website Resources
- 3.0 Scientific and Academic Resources

### Appendix 3: Cannabis Industry Definitions

### Appendix 4: Facility Contamination Control

- 1.0 Introduction
- 2.0 Educational Measures
- 3.0 Physical Measures

### Appendix 5: Basic Horticultural Techniques

### Appendix 6: Quality Control



- Appendix 7: Suggested Equipment
- Appendix 8: Log Sheets
- Appendix 9: Sample Operational Expense Sheet
- Appendix 10: One-Year Pro Forma Income Statement Sample
- Appendix 11: Job Descriptions
- Appendix 12: Operating Manual
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- Appendix 14: Price Sheet
- Appendix 15: Structures, Schematics and Diagrams
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- Appendix 19: Cultivation SOP Cut Sheets
  - 1.0 Initial Cloning Process Utilizing Mother Plant Genetics
  - 2.0 Topping the Plant during the Early Vegetative Stage
  - 3.0 Transplanting Early Veg Plant from 1 Gallon Pot Mid Veg 5 Gallon Pot
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  - 5.0 ScrOG Netting a New System during the Flowering Stage
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- 9.0 Code of Conduct
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- 14.0 Employee Handbook
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### 2.3.2 Cultivation Plan – Standard Operating Procedure Cut Sheets

#### Initial Cloning Process Utilizing Mother Plant Genetics

**Average Time Requirements:** 30 Minutes

**Staffing Requirements:** Senior Grower

**Prep Items Needed:**

- |                        |                     |                 |
|------------------------|---------------------|-----------------|
| • Mother plant         | • Hormone solution  | • 90% isopropyl |
| • Table                | applicator          | alcohol         |
| • Spray bottle with    | • Hormone solution  | • Clone dome    |
| water                  | • 10 gallon buck    | • Rubber gloves |
| • 6 pack root aeration | filled with mixture | • Shot glass    |
| containers             | of water, liquid    | • Scissors      |
| • Rapid Rooter root    | Karma™ and          | • Paper Towels  |
| balls                  | Myco™               |                 |

*Cloning is a proven method of propagation. Cloning is the process of taking a small clipping from a mother plant, placing the clipping in a root ball and causing it to take root. In using a mother's proven genetics you will know what strain you are working with, the characteristics and attributes of the plant and when the plant will be harvested.*

**Step 1:** Place all your prep items out on a table with the lid of the clone dome removed from the clone dome base tray.



Step 2: Fill your water bottle and the 10 gallon bucket with water. Put your root balls into the bucket to soak. Put as many root balls in the bucket as clones you plan on clipping. 1 clone dome contains 12 6 pack root aeration containers or 72 clones.

Step 3: Put 10 to 12 6 pack root aeration containers in your clone dome base tray.

Step 4: Put on rubber gloves. Using the applicator fill the shot glass half way with hormone solution and set off to the side.

Step 5: Remove the root balls from the water bucket and squeeze the excess water from the root balls so that they are moist but not soaking. Then place the root ball in each of the aeration containers in the clone dome tray till the entire clone dome is full.

Step 6: Take your scissors and clean them in rubbing alcohol and then wipe the tip with a paper towel to dry off.

Step 7: Use the tip of the scissors to poke holes in the center of the root balls in the clone dome tray.

Step 8: Again clean your scissors with rubbing alcohol and dry them with a paper towel.

Step 9: With the mother plan make a 90 degree cut between a node and a leaf and then trim off the top half of each leaf on the clone clipping.

Step 10: Dip the clone stem in the hormone solution and insert the stem into the root ball hole.

Step 11: Return to the mother plan and make another 90 degree cut between a node and a leaf and then trim off the top half of each leaf on the clone clipping. Dip the clone stem in hormone solution and insert the stem into the next root ball hole. Continue this process until all the root balls are filled with clones.

Step 12: When the entire clone dome tray is filled with clones, take the clone dome lid and spray the entire inside with water from your spray bottle. Then fasten the clone dome lid to the base and using a sticky note pad, write today's date and stick on the outside of the clone dome.



## **Topping the Plant During the Early Vegetative Stage**

**Average Time Requirements:** 1 minutes per pot

**Staffing Requirements:** 1 to 4 Growers depending on the magnitude of the job

### **Prep Items Needed:**

- Scissors
- Early Veg potted plants

*Topping a plant is a method of training the plant to grow bushier and fuller. Through cutting above a node, it will allow the plant to sprout two branches in place of only one. This is done in preparation for the plant to later sprout several more colas throughout the plant during the flowering cycle.*

Step 1: Take an early veg 1 gallon potted plant and count the nodes starting from the bottom of the stem and count 4 nodes up. The 4<sup>th</sup> node will be the one at the top and will be the newest and freshest node. Using your scissors, clip the stem off at a 45 degree angle above the 4<sup>th</sup> node to remove any nodes or fan leaves above the 4<sup>th</sup> node.

Step 2: Check the soil for any debris or old leaves and remove them from the pot as well.

Step 3: Continue this process with each early veg plant needing topped. This process will be done 1 to 2 times during the plants early vegetative stage.

## **Transplanting Early Veg Plant from 1 Gallon Pot to a Mid Veg 5-gallon Pot**

**Average Time Requirements:** 2-4 minutes per pot

**Staffing Requirements:** 2 to 5 Growers depending on the magnitude of the job

### **Prep Items Needed:**

- Early Veg plants
- Table
- 5-gallon pots



- Premixed soil in a 100 gallon perlite/canna coco pot
- Tracking Tag

*Transplanting is the process of moving the plant from a small pot to a larger pot. This is necessary as the plant grow it will shoot more roots throughout the soil. It is important to have the correct root to soil ratio. More water and nutrients will be necessary as the plant grows. A larger pot will facilitate this need.*

Step 1: Use a large table on which to work. Place you premixed perlite/canna coco soil in a 100-gallon pot and put it in the middle of the table. Have ready several 5-gallon pots.

Step 2: Take a 1 gallon Early Veg potted plant ready for transplanting and remove the tracking tag and place it on the table, then begin squeeze the sides of the pot to loosen up the soil.

Step 3: Place your hand over the top of the pot and flip it upside down in order to remove the plant and the soil from the 1 gallon pot.

Step 4: Once the plant and soil have been separated from the 1 gallon pot, flip the plant and soil upright once again and gently place the plant in the center of the new 5-gallon pot.

Step 5: Using the old 1 gallon pot from which the plant had been removed, scoop the premixed soil out of the 100 gallon pot and begin filling the 5-gallon pot until it is about 2 to 3 inches from the top of the 5-gallon pot.

Step 6: Once full, pat down the soil with both hands and insert your tracking tag in the soil.

### **Topping the Plant during the Mid and Late Vegetative Stage**

**Average Time Requirements:** 1 minutes per pot

**Staffing Requirements:** 1 to 4 Growers depending on the magnitude of the job

**Prep Items Needed:**



- Scissors
- Mid and/or Veg potted plants

*Topping a plant is a method of training the plant to grow bushier and fuller. Through cutting above a node, it will allow the plant to sprout two branches in place of only one. This is done in preparation for the plant to later sprout several more colas throughout the plant during the flowering cycle.*

Step 1: Take a mid or late veg 5-gallon potted plant and begin by first removing any crispy or dead leaves.

Step 2: Check the soil for any debris or old leaves and remove them from the pot as well.

Step 3: At the top of the plant remove all nodes that are long or bushing out by cutting the node at a 45 degree angle. The goal is to even out the canopy at the top of the plant and create new stems that will grow outward to make a bushier and fuller plant.

Step 4: Continue this process with each mid and late veg plant needing topped. This process will be done 1 to 2 times during the plants mid and late vegetative stages.

## **Watering/Nutrient Feeding the Veg Room**

**Average Time Requirements:** 1 hour

**Staffing Requirements:** 1 to 2 Growers depending on the size of the job

### **Prep Items Needed:**

- Run-off buckets
- Watering wand
- Hose
- Water source or trough



*Feeding the plant is crucial to a healthy, high yielding plant. Proper feeding is required. Resort to the systems feeding schedule for proper nutrients levels.*

Step 1: When watering the plants you need to wait till the plant soil is fairly dry. This will be an indication that it is time for watering. Using a watering wand will give you the length you need to reach deep into the middle of the table. With your wand start filling the pots and soil with water starting with the early veg 1 gallon potted plants. Give the early veg plants a 1 to 2 count feeding depending on how moist the soil is. (one 1000, two 1000 as you spray the soil).

Step 2: Place run-off buckets on the floor to catch any excess water run-off as you water the system. There should be little to no runoff because the vegetative plants are not getting fed too much nutrients.

Step 3: Once early veg plants have been fed nutrients, move to the mid veg 5-gallon potted plants. Give the plants a 2 to 3 count depending on how moist the soil is. Water each plant on the mid veg shelf, front to back, row by row till they are all fed.

Step 4: Once mid veg plants have been all fed, move to the late veg 5-gallon potted plants. Give the plants a 4 count when feeding. Water each plant on the late veg shelf, front to back, row by row till they are all fed.

## **Populating a Flowering System**

**Average Time Requirements:** 15-20 minutes per plant

**Staffing Requirements:** 1 to 2 Growers

### **Prep Items Needed:**

- Empty, cleaned  
flowering table



*Populating a flowering system is initiated once the flowering system tables have been harvested and cleansed of all old plant matter, soil and debris and cleaned with bleach water to ensure it is aseptic and free of any possible molds, mildews or traces of anything that could afflict the plants. A system should never go very long sitting empty.*

Step 1: Working from the back of the table to the front you will want to transport the shortest plants to the tallest plants. The busiest plants will remain around the edges and on the outer sides of the table and place the skinnier, less full plants in the middle of the table. This will ensure good plant coverage throughout the system.

Step 2: Be sure to have an even spacing of the plants on the table. There are 6 lights that will cover the table. There should be 9 plant spaced evenly under 1 light for a total of 54 plants throughout the table.

Step 3: Once the table is filled with the 54 plants it will be ready to add the trellis netting and get ScrOGed.

### **ScrOG Netting a New System during the Flowering Stage**

**Average Time Requirements:** 45 to 60 minutes

**Staffing Requirements:** 2 to 4 Growers depending on the number of new flowering systems

#### **Prep Items Needed:**

- Scissors
- Flowering Plant System
- ScrOG trellis net
- Bell wire
- Zip ties

*A ScrOG net or trellis net is a fiber net that is laid over the entire system. Each system has a halo surrounding the upper table. The net is harnessed to this trellis so as to lay over the upper base of the plants canopy. This allows the grower to tie down the upper plant canopy to the net. It helps to create an even canopy and helps facilitate the filtration of air and light through the upper region of the plant.*





Step 1: After 54 plants have been situated on a table system, take the trellis net and gently place it over the top of the plant system.

Step 2: Gently push the netting down through and around the plant branches and leaves without breaking any plant matter.

Step 3: Stretch the trellis netting tightly around the system halo so that the netting is taut.

Step 4: Using the zip ties, tie down the netting onto the halo around the entire system about every 6 inches ensuring that the trellis netting remains taut.

Step 5: Using scissors, cut away any excess trellis netting below the halo.

Step 6: Using bell wire, tie down the branches of each of the 54 plants on the system to the trellis netting. This is known as ScrOGing (Screen of Green). ScrOGing the plants will create an even canopy on the system and will open the branches to oxygen and light in order to better nourish the entire plant system.

## **Pruning a Flowering Plant System**

**Average Time Requirements:** 45 minutes to an hour per system

**Staffing Requirements:** 1 to 2 Growers per system

### **Prep Items Needed:**

- Hand clippers
- Waste bucket
- Rolling stool



*Pruning is the process of removing the foliage from the lower 12 to 18 inches of the plant stalk.*

*Otherwise the lower foliage would compete for air, light and nutrients. By removing this superfluous plant matter, it allows the screen of green canopy to take in the additional nutrients the plant will need to dedicate to producing healthy colas.*

Step 1: Pruning will be conducted 3 times while the plant is in the flowering stage. The first pruning will be done the first week the plant has been moved into the flowering room. The second pruning will be done once during the second week and the third pruning will be done during the third week the plant is in flower. The Grower will need to utilize a rolling stool so he/she can sit down during this task. Taking the hand clippers, the Grower will begin at one corner of the system and work row by row till all 54 plants on the system have been worked.

Step 2: On the first week prune, start with the first plant in the corner of the system. Start at the base of the plant and trim all leaves and stems closest to the soil. Make sure that no stems or leaves are touching the soil as this could contaminate the soil. Only trim 6 inches up from the soil and then stop. Throw all discarded plant material into the waste bucket. This will later be ground up mixed with soil and bleached for disposal. You will not want to trim any more than about 6 inches because you want to be careful to not shock the plant.

Step 3: Continue trimming off the bottom 6 inches of each plant, row by row and plant by plant until the entire 54 plant system is complete.

Step 4: During week 2 trim off another 6 inches below the canopy starting at the lowest leaves and stems. Work it row by row and plant by plant till the entire system is complete.

Step 5: During week 3 trim off another 6 inches below the canopy starting at the lowest leaves and stems. Work it row by row and plant by plant till the entire system is complete. The goal after the 3<sup>rd</sup> week of trimming is that by this time you have pruned up to the bottom of the trellis canopy. The idea behind pruning slowly in this manner is to not shock the plant. Also, by removing the lower branches and leaves



the base foliage of the plant will not compete for resources, energy and nutrients with the top most canopy.

## **ScrOGing a New Plant System in Flowering**

**Average Time Requirements:** 1 to 2 hours per system

**Staffing Requirements:** 1 to 2 Growers per system

### **Prep Items Needed:**

- Bell Wire

*ScrOGing is the process of tying down the upper canopy of the flowers on a system to the trellis net in order to keep the canopy even and level. This helps to efficiently and evenly spread the air and light resources throughout the entire system.*

Step 1: ScrOGing the flowering system will be done 3 to 4 times during the first 21 days the plants are in Flower. The first ScrOGing is done as soon as the 54 new plants have populated the flowering system and after the trellis netting has been tightly fastened down to the halo. As the plant continues to grow while in flower, further ScrOGing will be required. About every 3 or 4 days during the first 21 days. The idea behind ScrOGing is to tie down and train the plant so that there is an even canopy across the entire flowering system. This will help utilize maximum resources consistently and evenly throughout the entire system. Starting at the corner of the flowering system with the first plant, tie down a branch to the trellis netting with bell wire. When attaching the bell wire to a stem or branch, don't tie the bell wire too tightly. It is better to loop the bell wire around the branch with a little give in order to not damage the plant and allow it to breath.

Step 2: Work the canopy of the entire plant, tying down all the tallest branches to the trellis netting.

When the first plant has been tied down move to the next plant, row by row and plant by plant till all 54 plants of the system have been ScrOGed. The idea is to cover each netting square in the trellis so that the



netting is evenly covered with plant material. You are creating a ScrOG or Screen of Green. This is an even and flat canopy of growth throughout the system where each plant is getting the maximum light, CO2 and air circulation. This will prevent inefficient use of resources in given areas around the trellis netting.

Step 3: After 3 or 4 days repeat this process by starting in the corner and ScrOGing down each plant, row by row and plant by plant. Look for branches that have grown upward and are higher than the rest of the canopy.

Step 4: After another 3 or 4 days repeat this process by starting in the corner and ScrOGing down each plant, row by row and plant by plant. Look for branches that have grown upward and are higher than the rest of the canopy. This process will continue till day 21 of the system flowering. Then you will stop ScrOGing the plants and allow them to grow out. Day 21 is around the time the plants begin to bud.

## **Flower Room System Feeding Schedule**

**Average Time Requirements:** NA

**Staffing Requirements:** 1 Grower

### **Prep Items Needed:**

- Feeding schedule sheet
- Clipboard

*Maintaining a feeding and nutrients schedule for each system is the most effective way of communication among the growing staff. It helps to keep organized as the nutrients levels will increase as the system ages. To give too much or too little of water and nutrients during the plants flowering stage can destroy your harvest and ruin production. Or cause an inferior plant with fewer yield.*

Step 1: Each flowering room will have a feeding schedule sheet attached to a clipboard hanging by each system in a flower room. One flower room will typically have 6 to 7 systems resulting in 6 to 7 feeding



schedules per system. Organization and communication are the key to a healthy grow operation. It is crucial to maintain information about each system such as the feeding day, the date and the name of each plant on the table.

Step 2: The sheet is filled out in the following manner. On the left is a calendar of the entire month day 1 through 30 or 31. At the top of the calendar boxes put Monday through Sunday. On the right fill out the room and system number, the system start date and the estimated harvest date. Below this information also write in if the system is a 7, 8 or 9 week harvester. In the boxes below fill in the name of each plant on the system in the order in which they are placed on the table from left to right, row by row.

Step 3: Nutrient feedings occur on Mondays, Wednesdays and Fridays. Each day of each week as the system receives feedings, document what watering it is and the date of the watering for that day and that week. In other words for the 3 days of feedings during the first week, the grower will write on Monday, W1 meaning water 1 and will also write the date of that feeding. On Wednesday of the same week they will write in W1 and the date but the quantity will have increased in nutrients given, so on and so forth. The nutrients are increased with each successive feeding. By week 6 or 7 (depending on the strain's harvest time) the plant has been given the largest dosage of nutrients.

Step 4: 10 days to 2 weeks before the system is to be harvested is when the flush feedings are applied to the plants. The feedings consist of water and molasses only. Flushings will also occur Mondays, Wednesdays and Fridays. These flushings are applied in order to clean or flush the nutrients and any chemicals from pesticide, fungicide and miticide applications out of the plants system.

Step 5: After flushing on Monday at the end of the calendar month, write in F for flush and the date and do this for each successive flush.

## **Prepping the Trough with Nutrients for Flower Room Feedings**

**Average Time Requirements:** 10 to 15 minutes per trough



**Staffing Requirements: 2 Growers**

**Prep Items Needed:**

- Feeding schedule sheets per system
- Scissors
- Shot glass
- 2 one gallon pitchers
- 2 graduated cylinders
- 150 gallon trough filled with water
- Large mixing paddle
- TDS meter
- Manual fork lift
- Paper and pencil
- Silica
- Micro Nutrients
- Macro Nutrients
- Drip Weed
- Bud Swell
- Canna Coco A
- Canna Coco B
- ph Down



*Adding the proper amount of nutrients to the water is important in producing the most vibrant product.*

*Depending on the stage of development of the plants on a system will determine how to prepare the trough and how much nutrients is required. To give too much or too little nutrients to a system can be detrimental to your plants and cause the plants to under produce.*

Step 1: Nutrient feedings are performed for the flower rooms every Monday, Wednesday and Friday. The Veg room will be fed during Tuesdays, Thursdays and sometimes Saturdays if needed. The plants are fed with macro nutrient mixtures of nitrogen, phosphorous, potassium, calcium and magnesium. They are also fed with micro nutrient mixtures of zinc, iron, magnesium immobile and sulfur. All crucial to the health and vigor of the plant. The grower will start by walking the flowering rooms and review all feeding schedules on each system to see what feeding week each system is on. The week determines how many parts per million of pH will have to be added to the mixture. As the days and weeks go by, more pH is added to the water. Write down each system's feeding day.

Step 2: Fill the 150 gallon trough full of water and with a manual forklift transport the trough to the nutrient table. One trough will feed two systems.

Step 3: On the nutrient table lay out all your chemicals you will need for mixing as well as your pitchers and graduated cylinders.

Step 4: Working in a team of two growers per trough is best so you can get the mixture done quickly and get the other growers feeding the rooms. First you will add Silica to the water as this will ensure no salt is in the water. If salt is in the water it will crystalize and won't allow the other chemicals to mix as well. Silica removes the salt content.

Step 5: Next you will add the micros, Drip Weed, Bud Swell, Canna Coco A and B. It is a good idea to have 2 one gallon pitchers for the Canna Coco. Write an A on one pitcher to be used for only Canna



Coco A and write B on the other pitcher to be used for only Canna Coco B. You do not want to cross contaminate any chemicals with the canna coco.

Step 6: Once all the chemicals are added, use a TDS meter to measure the parts per million once everything is added. Using a paddle, stir the water to mix everything well. This will help to get an accurate reading on the meter. If the parts per million are too low (depending on the systems feeding schedule) you will need to add more Canna Cocoa A and B till the reading is where you want it.

Step 7: When you get the parts per million where it needs to be, you will finally add the citric acid pH Down. Using a meter you will shoot for a reading of 6 regardless of the feeding schedule. A reading of 6 is safe. pH Down is very powerful so it is important to add it slowly on capful at a time. Start with 1 cap and see if you get the reading you want. Should you overshoot 6 on the meter, you will have to add pH Up till you get to the range of 6. It is best never to use pH Up if possible so try to hit the range with pH Down.

Step 8: Use a paddle to mix the pH Down. You will need to let it settle for a second to get an accurate reading because pH Down will flux slowly.

## **Watering/Nutrient Feeding the Flowering Plant System**

**Average Time Requirements:** 30 Minutes

**Staffing Requirements:** 1 to 2 Growers depending on the size of the job

### **Prep Items Needed:**

- Run-off buckets
- Watering wand
- Hose
- Water source or trough





*Feeding the plant is crucial to a healthy, high yielding plant. Proper feeding is required. Resort to the systems feeding schedule for proper nutrients levels.*

Step 1: When watering the plants you need to wait till the plant soil is fairly dry. This will be an indication that it is time for watering. Using a watering wand will give you the length you need to reach deep into the middle of the table. With your wand start filling the pots and soil with water starting on the corner of the system working plant by plant and row by row.

Step 2: Place run-off buckets on the floor to catch any excess water run-off as you water the system.

Step 3: Fill the first pot with a good coverage so that the water is standing on the surface of the soil prior to soaking in.

Step 4: Move to the next pot and fill it and each successive pot in this manner till the entire system has been watered.

Step 5: Remember you are only watering the soil and not the plant canopy.

## **Fungicide Management During Flowering**

**Average Time Requirements:** 30 to 60 minutes depending on the time the system has been in flower

**Staffing Requirements:** 1 to 2 Growers

### **Prep Items Needed:**

- Two Sprayer Applicator 2 gallon mixing tanks
- Green Headlamp
- Fungicide Treatment: Serenade™ and SaferGro Mildew Cure™

*Fungicide management is usually performed once a week in flower. Wednesday is the designated day for treatment sprays. Only organic safe chemicals are used during flower. These treatments are only done during the 12 hours that lights are out in the flower room photoperiod. Green headlamps are used so the*



*grower can see in the dark. The green spectrum light is not harmful to the plant and will not cause the plant stress. It is important to be delicate with the plants so as not to disrupt their growth process nor disrupt this photoperiod during light deprivation.*

Step 1: Preparing the two spray applicator mixing tank is the first step. Be sure to completely rinse out the mixing tanks with cold water several times prior to beginning. This will ensure there is no cross contamination with any residual chemicals sitting in the sprayer canister.

Step 2: Fill the two empty and flushed mixing tanks with warm water till it is about 2 gallons full.

Step 3: Next you will begin adding the fungicide chemicals to the warm water. In the first tank you will add Serenade™ disease control concentrate. It will be used during days 1 through 35 of the plants being in flower. Add Serenade™ to a 2 gallon mixing tank. Apply 3 cap fulls which equal 1.5 caps per gallon.

Step 4: Next will be to prepare a second mixing tank for Mildew Cure™ treatments. Mildew Cure™ is cotton seed oil and garlic oil. You will add 1 ounce per gallon or 2 ounces in the two gallon mixing tank. This is sprayed day 36 till the start of flush. Flush begins 10 day prior to harvest.

Step 5: Now you should have two mixing tanks prepared, one with Serenade™ mixture and one with Mildew Cure™ mixture. Now screw on the lids give them a good shake to ensure they are mixed well with the warm water.

Step 6: Grab the handle and pump it up and down several times to build pressure through the lines. You will want to take a moment and clear the lines to ensure that all residual chemicals have been fully cleared prior to spraying the flowering plants. Clear the line by spraying in a trash can for a count of 10 seconds. Now you are ready to spray the flowering system.

Step 7: In the flowering room you will only spray the canopy, not the soil or stalk. Apply the treatment by spraying the canopy sweeping back and forth, row by row, front to back. A 2 gallon mixing tank can treat about 2 to 3 systems depending on the growth phase or time the systems have been in flower. The



longer a system has been in flower the fuller and larger the canopy will be. A system that has been in flower longer will require more of the treatment.

## **Harvesting the Flowering Plant**

**Average Time Requirements:** 1 to 1.5 hours per system

**Staffing Requirements:** 2 Growers per system

### **Prep Items Needed:**

- Scissors
- Rolling transport staging cart
- Twine
- Support stick

*Harvesting a system is the process of removing the ScrOG trellis net from around the plant by cutting the netting away from the stems and leaves that are tied down. Harvesting is the crowning day to the entire plant production life cycle. By this stage the plants have fully grown and produced the desired finished bud, tight trim and kitchen leaves that will be cut away and sold.*

Step 1: Remove the ScrOG trellis netting by first cutting one side of the netting attached to the halo down the row of plants closest to the halo. Leaving the rest of the halo netting intact will support the rest of the top heavy plants on the system.

Step 2: It is best to work one system in teams of two growers. One grower will cut away the trellis netting while the other will hold the plant so as not to fall over. The plants will be very top heavy.

Working 1 plant at a time down the first row. Use scissors and begin cutting the trellis netting attached to the branches of the first plant in the first row (it is not necessary to remove the bell wire holding the plant branches to the trellis netting. It is better to leave it on the plant and cut a few inches out from the plant.

The Trim Department will remove the bell wire and trellis netting when they begin trimming the plant).



As the plant comes loose have the other grower hold the plant stalk up so that it does not fall over and damage the colas.

Step 3: Once the plant comes loose, while the second grower is holding up the plant, his partner grower will stake a support stick into the soil next to the stalk. Tie the stalk to the stick with twine in order to keep the stalk vertical and prevent it from falling over.

Step 4: Once the plant has been cut loose and staked, the second grower will walk the plant to the rolling transport staging cart.

Step 5: This process will be repeated for each plant down the first row. Once the entire first row is removed, start working the second row of the system by again removing the trellis netting around the plant.

Step 6: When all 54 plants are removed from the table and placed on the rolling staging carts, wheel the cart to the Trim Department staging area.

## **Hand Trimming Cannabis**

**Average Time Requirements:** 1 to 2 hours per plant

**Staffing Requirements:** 1 Trimmer per plant

### **Prep Items Needed:**

- 4 aluminum turkey trays baking pans
- Hydrofarm or Fiskars hand clippers
- Nitrile gloves
- Isopropyl rubbing alcohol
- Paper towels
- Permanent marker



- Weigh scale

*Trimming consists of breaking the harvested plant down to its three most basic products...finished bud, tight trim and kitchen leaf. Finished bud will be sold in the dispensary for smoking, tight trim (Sugar Leaf) will be either sent to make joint mix and pre-rolls, or it will be sent to an extraction facility to make oils and infused products. The kitchen leaves will be sent to the kitchens to make edibles.*

Step 1: The trimmer will retrieve one harvested 5-gallon potted plant from the staging cart and bring it to their trim work station.

Step 2: Put on a pair of Nitrile gloves. Remove the support stake by cutting off the twine holding the stalk to the stake. Next, using the hand clippers, cut the stalk at soil level to remove the plant from the soil and the 5-gallon pot and put the entire plant into a large aluminum baking pan.

Step 3: Remove the tracking tags from the 5-gallon pot and put the old pot and soil aside to later have the soil removed from the pot and the pot cleaned for reuse.

Step 4: Weigh the entire plant in the tray and on the reverse side of the tracking tag record the plant weight, our name, the time and date.

Step 5: Return the tray to your trim work station and lay out two more aluminum baking trays. One tray will be used for waste and the other will be used for the stems that are removed from the stalk. Begin by removing all ScrOG netting and bell wire from around the plant and put them in the waste tray.

Step 6: Once the netting and bell wire have been removed from the plant, using your hand clippers, cut the stems from the stalk and put the stems in a separate aluminum baking tray. The stems should be about a foot or less in length. If any loose bud breaks off as you are removing the stems from the stalk, place the loose bud in a separate tray. Once all the stems have been removed from the stalk, place the stalk in the waste tray.



Step 7: Put the waste tray aside and grab the stem tray and put it in front of you. Then grab a new aluminum baking pan and set it in front of you next to the stem tray. Take one stem out of the stem tray and remove all large fan leaves from the stems. When the leaves have been removed from that stem, put the stem back into the stem tray. Work each stem in the tray till all fan leaves have been removed, then set the fan leaf tray aside with the waste tray.

Step 8: The stem tray should now have all fan leaves removed. Grab two new aluminum baking tray and set them by the stem tray. One tray will be for the sugar leaves and the other will be for the finished bud. Put on a new pair of gloves and grab the hand clippers. Take a stem from the stem pan and remove all the tight trim, also called sugar leaves, and collect all the clippings in the tight trim pan. The goal is to trim the tight trim off in such a way that the finished bud is attractive and round. Work all the buds on the stem till all the tight trim is removed and collected in the tight trim pan. You should then be left with a foot long or shorter stem with several finished buds connected. Put the finished bud stem in the other pan designated as the finished bud pan.

Step 9: Grab another stem from the stem tray and repeat this process. Continue working the entire stem tray until every stem has been separated into a tight trim tray and a finished bud tray.

Step 10: You should now have a waste tray full of stalks, dead leaves, ScrOG netting and bell wire; a fan leaf tray that will go to a kitchen to make edibles and other infusions; a tight trim tray that will go to an extractor or to make joint mix; and you should have a finished bud tray that will go to the Cure department to be hung up and dried. Take these four trays and put them by the scale to be weighed.

## **Machine Trimming Cannabis**

**Average Time Requirements:** 10-20 minutes per plant

**Staffing Requirements:** 2 to 3 Trimmers

**Prep Items Needed:**



- Scissors
- Harvested plant
- 4 Aluminum baking Trays
- Rubber gloves
- Weigh scale
- Trimming Machine

*Utilizing a trimming machine is ideal for large scale industrial grow operations where production and output is high. One machine can trim 10 times what one Trimmer can produce. It is best to machine trim hardier strains not bothered by the machine or lesser strain varieties as the machine will not produce as nice a presentation on the bud as a Trimmer. Machine trimming will aid in pushing out quicker and more efficient buds in a timely manner to meet demand. Machine trimming is performed in two phases, the machine trim prep phase and the actual machine trim phase.*

Step 1: During the prep phase you need to prepare the plant prior to getting machine trimmed. Take a harvested plant and cut it away from the 5-gallon pot by cutting the stalk just above soil level and place the plant stalk-side-up in an aluminum baking tray.

Step 2: Weigh the plant tray and record the weight in to the POS tracking system.

Step 3: Prep your table by placing 3 aluminum baking trays on the table. 1 tray will be for waste material, 1 for large fan leaves and 1 for the bud.

Step 4: Put on rubber gloves and using your scissors, cut the branches away from the plant matter and place the branches in the waste tray.

Step 5: Begin the shucking process by taking on stem and removing all the largest fan leaves. Place the fan leaves into the fan leaf tray. As you remove large fan leaves you will begin to uncover the bud. Place



the bud in bud tray. Once you have removed all the fan leaves and buds off the stem, put the stem in the waste tray.

Step 6: Take another stem and remove the fan leaves and the buds as before, placing the stem, buds and fan leaves in their proper trays. Work the entire plant in this fashion till the plant is complete and broken down into all three byproducts.

Step 7: Weigh all three trays individually and record the fan weight, the bud weight and the waste tray weight into the POS tracking system and write the weights down on the tracking tag.

Step 8: Once all is weighed and recorded, the large fan leaf tray will go to the Cure/Dry department to complete its drying phase. This will later be sold to kitchen operators to make edibles. The waste tray plant materials will be ground up and bleach and then disposed of. The bud tray will be taken to the machine trimmer.

Step 9: With the bud tray now transported to the machine trim room it is time to begin the second phase of trimming the plant. It is important to start and end with a clean machine. Make sure the machine has been properly cleaned out of all small plant fibers to avoid clogging the machine or preventing the tightest trim possible.

Step 10: With the machine trimmer clean, take the bud tray and dump the entire contents of plant matter into the feeding net and begin by removing the smaller fan leaves from the buds and placing the fan leaves into a separate aluminum tray. Also remove any excess stems from the buds and place those in a waste tray.

Step 11: Once all the smaller fan leaves and stems have been separated from the buds, push only a few handfuls of the buds into the machines tumbler. You do not want to push too many buds into the tumbler at any given time or it will affect the machines ability to adequately trim the tight trim from the bud. The machine will spin the buds through the tumbler's blades and begin removing the tight trim from the bud.





Step 12: After a minute or so of tumbling the first few handfuls of bud, remove the trimmed bud by inserting your hand into the tumbler and pushing out the bud into the bud tray.

Step 13: Repeat this process with the next few handfuls of bud sitting in the feeding net. Do this till all the buds have been tumbled and all the tight trim has been removed.

Step 14: Once all the buds have been tumbled, dump the entire trimmed bud into the feeding net a second time and allow the buds to be tumbled once again. This will ensure that all the tight trim has been separated away from the bud. Only push a few handfuls of the buds through the machine at a time in order to get a close trim.

Step 15: Once the buds have all gone through the machine a second time, take the tray containing any waste and have it disposed of by grounding it and bleaching it so it is unrecognizable. Take the bud tray and the fan leaf tray to the cure/dry department to complete the drying phase of the plants life cycle.

## **Drying the Finished Cannabis**

**Average Time Requirements:** Depends on the number of newly trimmed plants

**Staffing Requirements:** 1 Cure Specialist per drying rack

### **Prep Items Needed:**

- Drying rack
- Several trays of finished bud product
- Step stool
- POS tracking tags
- Several aluminum turkey tray baking pans

*Drying is the process of taking the plants three basic products of finished bud, tight trim and kitchen leaves and allowing them to dry in an environment conducive to proper drying. Most of the moisture must*



*be removed in order to create a quality product to be sold. Once the tight trim is dried it will be de-nugged and cured.*

Step 1: A finished bud requires between 7 to 10 days to dry depending on the strain. Drying the finished bud is necessary in order to remove plant moisture and aid in the curing process. If a drying rack is full of dried finished bud that have been dried the requisite amount of days, then they will first need to be removed from the rack. Using a step stool and several aluminum baking pans, begin removing one plant at a time starting at the top left corner of the rack and working from left to right row by row. The drying rack should be viewed the same as if you were reading a book. One plant and its tag will be placed on the rack from left to right with the tracking tag placed at the end on the far right of the plant in order to differentiate one plant from the next. Behind the tag will be the start of another plant from left to right with the tracking tag hanging on the far right, so on and so forth. Use one baking pan per plant and place them off to the side to be de-nugged (the process of removing the dried cola from the stem).

Step 2: Retrieve the trimmed plant from the trim department. The plant will have been trimmed and broken down into 3 main trays, the fan leaf, the tight sugar leaf and the finished bud. Retrieve these 3 trays and its plants tracking tag and transport them to the Dry/Cure room.

Step 3: Place the fan leaf tray and the tight sugar leaf tray on the curing shelf to allow it to air dry for 7 to 10 days. Place the finished bud trays on a table or on the floor next to the drying racks.

Step 4: On the empty drying rack begin by working one finished bud pan at a time, from left to right using the stem of the plant as a hook to hang the plant to the wire. If you have several plants to dry, it is okay to press each finished bud stem tight together to make room for as much plant product as possible. If there are few plants to hang then it is ideal to spread the stems out a bit on the rack as this will aid in drying the plant quicker. Once the first plant tray is fully hung for drying, hang the POS tracking tag at the far right of the plant to act as the division line between one plant to the next. Grab the next plant and



work again from left to right hanging the tracking tag at the far right. Repeat this process from left to right and row by row till you are either out of finished bud to dry, or the rack is full.

Step 5: You may notice in the finished bud pan that there are a few loose buds without a stem. These sometimes break off the stem when they are getting trimmed. These will be placed in a net to dry and will later be added to a batch of mixed bud. Mixed because several strains of loose bud will be placed in the drying net to be sold as mixed bud product later on.

## **De-nugging the Dried Finished Cannabis**

**Average Time Requirements:** 30 min to an hour depending on the size of the plant

**Staffing Requirements:** 1 Cure Specialist per tray

### **Prep Items Needed:**

- Hydrofarm™ clippers
- Aluminum baking tray of dried finished bud product
- POS tracking tags
- Several aluminum turkey tray baking pans

*De-nugging the finished bud is the process of taking the dried finished bud and removing the colas from the stems. The colas will then be cured and the stems will be disposed as waste.*

Step 1: Once the plant's finished bud stems have completed the 7 to 10 day drying process, the plant is then removed from the drying rack and placed into an aluminum baking pan. One pan is to be used for each individual plant so that the strains do not get mixed up.



Step 2: Place the dried finished bud pan on the table and grab a second empty aluminum baking pan and place it on the table next to the dried finished bud pan. Remove the POS tracking tag from the dried finished bud pan and place it in the empty baking pan.

Step 3: Using the Hydrofarm clippers grab one stem of dried finished bud from the pan and begin removing the buds from the stem. This process is known in the industry as de-nugging the plant. You can either cut the cola from the stem or you can often break it off with your hand because it is so dry. The de-nugged colas will be put on one half of the empty baking pan and the stems will be placed on the other half of the pan next to the POS tracking tag.

Step 4: Once one entire stem of the plant has been de-nugged, take another dried finished bud stem and repeat the process of de-nugging. Continue this process till the entire plant's dried finished bud has been de-nugged. Be sure that as you are de-nugging the plant you are paying close attention and inspecting each cola for impurities such as powdery mold or mildews. This should always be reported to the Grow team. The Cure Specialist acts as a crucial line of defense in quality control.

Step 5: Once the plant has been fully de-nugged it is now time to weigh the tray. Once half of the tray has the colas and the other side of the tray has the dried stems. The stems are waste but still must be weighed. Put an empty aluminum baking tray on a scale and place the stems in the tray to be weighed. Record the weight by writing the weight on the back of the POS tracking tag. Then weigh the de-nugged colas and record the weight on the back of the tag as well. Then go to the computer and record these numbers into the tracking system.

Step 6: This is the process for one entire plant. Repeat this process with the next plant until all dried finished bud plants have been de-nugged and their weights recorded into the tracking system.

## **Aerating Cannabis During Cure**

**Average Time Requirements:** 15 minutes to burp and 2 minutes to flip the product



**Staffing Requirements:** 1 to 2 Cure Specialists

**Prep Items Needed:**

**Cure Bucket**

*A good cure is important in aiding the colas in bringing out their resins, smells and flavors. A cure can take anywhere from 3 weeks to 3 months on average. Very similar to curing a fine wine. The product must be burped on a regular basis during the cure process. Burping is the process of opening the cure bucket for 30 minutes at a time and giving the bucket a good shake. This allows the product to breath and removes some additional moisture. In dry environments it is important not too over burp as this could overly dry out the product which will make for an inferior product.*

Step 1: Curing consists of putting the dried finished buds into a light-tight/air-tight bucket or container and sealing it with a lid. Denying the bud light and air creates the proper environment to allow the plants natural resins and flavors to come out. Like a fine wine, the buds will sit and age, improving the quality of the finished product.

Step 2: Burping the cure bucket is the process of opening up the bucket lid and airing the buds for no more than 1 hour daily. Remove the lid and let the open container sit on the shelf for an hour.

Step 3: Set a timer to let you know when the hour is up. You do not want to burp longer than an hour each day or the bud could get too dried out and loose too much weight and ultimately ruin the quality of the finished product.

Step 4: Repeat the burping procedure with all curing product daily. The cure and burp process can last for several days or several weeks depending on the demand.

**Flipping the Product During Cure**

**Average Time Requirements:** 2 minutes



**Staffing Requirements:** 1 to 2 Cure Specialists depending on the size of the job

## **Prep Items Needed**

Cure Bucket

*Flipping the cure buckets (1 time per month in dry climates, 2 to 3 times per month in higher humidity climates) is the process of removing the product from a cure bucket into another cure bucket and then replacing the product back into its original cure bucket. This allows the product resting at the bottom of the bucket to now be on the top. It helps to release the moisture that accumulates at the bottom of the bucket.*

Step 1: Flipping the cure buckets is a process that needs to be done 1 time per month for each cure bucket during the life of the cure cycle. Flipping is important to release trapped air and moisture at the bottom of the bucket to improve the overall cure of the finished product.

Step 2: Place an empty cure bucket on a table and remove the lid.

Step 3: Go to the cure storage shelves and take a sealed cure bucket full of finished product and carry it to the empty cure bucket on the table.

Step 4: Remove the cure lid and remove the product batch tags and pour the entire cured plant bud into the empty container.

Step 5: Now pour the newly filled container back into the original cure bucket once again and place the product batch tags back into the container.

Step 6: Reseal the cure bucket lid and place the cure bucket back on the cure shelf.

Step 7: These steps are to be repeated with each curing bucket one time per month.



## **Appendix 2.4 - Manufacturing Plan Overview**

The following is an overview of the proposed GreenLeaf Medicine, LLC (“GLM”) Medical Cannabis Manufacturing Plan (“MCMP”). The plan has been developed in support of the Company’s State of Hawaii Department of Health (the “Department”) Medical Marijuana Dispensary System Application under the provisions set forth in HB 321.

This plan sets forth a broad overview of the manufacturing operations contemplated within the application. Certain proprietary information, including but not limited to operational procedures, recipes and formulations have been deemed as trade secrets and as such have been omitted from this application. The entire GLM Standard Operating Procedures are available to the Department upon request.

### **2.4.1 - Standard Operating Procedure (SOP)**

GreenLeaf Medicine (“GLM”) staff will be provided with access to SOP’s developed and refined by CanCore Concepts (“CCC”) through their relationship with Denver Packaging Company (“DPAC”), a fully licensed State of Colorado Medical Marijuana Infused Product Manufacturer. Within these standard operating procedures, quality assurance is of paramount concern during each phase of the processing and manufacturing cycle. The following sections outline the table of content for the proposed standard operating procedures necessary to facilitate compliant and safe manufacturing of medical marijuana infused products, along with the training protocol for manufacturing managers and employees.

#### ***2.4.1.1 – Manufacturing SOP Training Protocol***

The initial processing and manufacturing training process involves engaging GLM Managers and Key Personnel of each job classification at DPAC facilities in the specific training regiments needed to secure their proficiency in understanding the performance basics of the position they are being hired to fulfill. This on-site training at a licensed operational facility in Denver, CO allows them to participate actively in training at a fully functioning business which has deployed proven methodology in regard to industrial marijuana processing and cultivation. This environment will provide trainees the ability to learn the associated tasking through repetitive exposure to the various duties they will be performing on a day-to-day basis. GLM shall train all registered manufacturing agents on the Standard Operating Procedures (SOPs) as follows. During the orientation process conducted on the first day of employment prior to



performing any job duties, manufacturing and processing agents will receive a copy of the SOPs and shall be provided access to a master copy that is available onsite in a central location. To remain compliant, all staff members working in and around the manufacturing environment need to read all applicable SOP documents and then review the sections that relate to their job with their supervisor before training starts. It is incumbent upon supervisors to ensure processor agents consistently follow SOPs and company policies.

In addition to providing the basis for staff members training, SOPs are also critical to meaningful job descriptions and performance objectives. SOPs will assist with:

- ❖ Spelling out the expectations of every staff member
- ❖ Training supervisory staff and staff members to implement the expectations appropriately
- ❖ Requiring accountability at all levels
- ❖ Remaining compliant with federal, state and safety laws

The implementation of a system for ensuring that all staff are knowledgeable and held accountable for following policies and procedures is essential. In performance reviews, SOPs will provide GLM management an impartial standard for evaluating performance. Using SOPs makes it easier to be consistent about expectations for every staff member and to determine whether performance meets, exceeds, or falls short of expectations.

Ongoing agent training of processing and manufacturing SOP's will occur through new staff member orientation and training, refresher training, advanced training, work site reminders, cross training, performance appraisal, employee safety and accident prevention, food safety, process improvement, quality control, environmental protection, or job description development.





### 2.4.1.2 – Manufacturing SOP Outline

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  - 1.005 - Care, Security and Backup of Computer Systems
  - 1.006 - Authorization to Input and Modify Data on Computer Systems
  - 1.007 - Review of Policies and Procedures by Personnel
  - 1.008 - First Aid Administration
  - 1.009 - Safety for Employees in the Work Area
- Section 2 – Employee Training/Ingredient Storage Training
  - 2.001 - Documentation of Employee Training
    - i. *Log Sheet - Personnel Education and Training Log*
    - ii. *Log Sheet – SOP Training*
  - 2.002 - Chemical and Ingredient Storage Training
  - 2.003 - Chemical Plant Mfg SOP
  - 2.004 - General Food Hygiene Training
- Section 3 - Buildings and Facilities
  - 3.001 - Security of the Facility
    - i. *Log Sheet - Facility Entrance/ Exit Key Log*
  - 3.002 - Fire Prevention Measures
  - 3.003 - Facility Design & Operation
  - 3.004 - Facility Temperature
    - i. *Log Sheet - Air Temperature Monitoring Log*
    - ii. *Log Sheet - Humidity Monitoring Log*
- Section 4 - Equipment and Maintenance
  - 4.001 - Eyewash Station - Use and Maintenance
    - i. *Log Sheet - Eyewash Station Maintenance Log*
  - 4.002 - Refrigerator / Freezer Temperature Monitoring
    - i. *Log Sheet - Refrigerator / Freezer Temperature Monitoring*
  - 4.003 - Room Cleaning Procedures - Other Rooms
  - 4.004 - Rotary Batch Mixer
  - 4.005 - High-speed Rotary Pill Press Machine
    - i. Herbal Lozenges
  - 4.006 - Piston Filler
    - i. Sublingual Tincture
    - ii. Transdermal Ointment



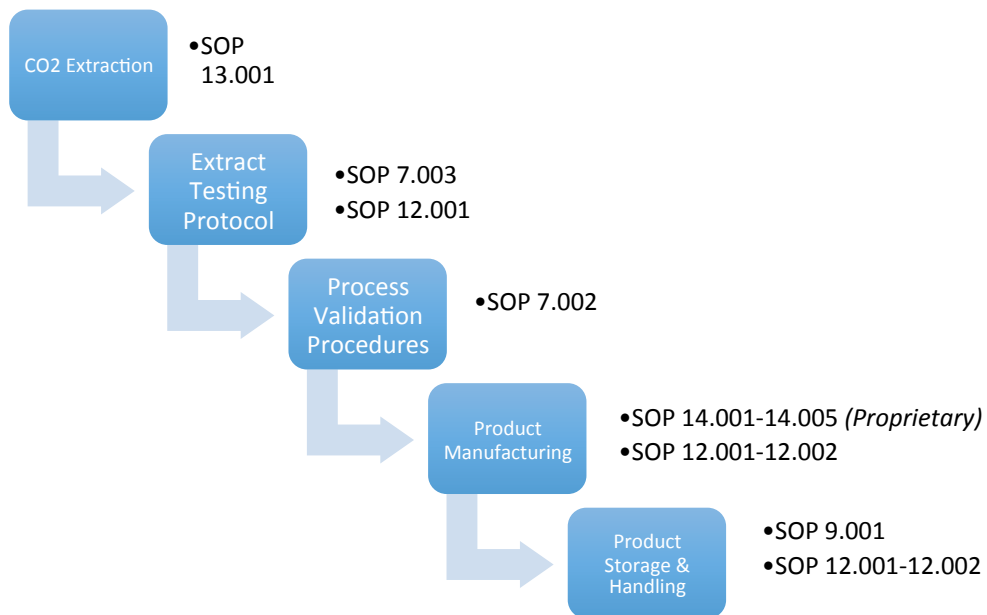
- 4.007 - Peristaltic Filling Machine
    - i. Capsules
  - 4.008 - Extraction Equipment
    - i. CO2 Extractor
    - ii. LPG Extractor
  - 4.009 - Refrigerator
    - i. *Log Sheet - Refrigerator Maintenance, Cleaning and Power Interruption Log*
- Section 5 - Documentation and Record
  - 5.001 - Length of Time to Keep Documents Samples
  - 5.002 - Certificate of Analysis
  - 5.003 - Vendor Accounts
  - 5.004 - Assignment of Invoice Number
  - 5.005 - Filing Quality Assurance Documents
- Section 6 – Active Ingredient Management
  - 6.001 - Performing Inventory Count
  - 6.002- Theft or Loss Mitigation
  - 6.003- Product Quality Defect Reporting
  - 6.004- Visual Inspection
- Section 7 - Quality Management
  - 7.001 - Responsibilities of the Quality Unit
  - 7.002 - Process Validation Procedures
  - 7.003 - Testing Protocol
- Section 8 - Packaging and Identification Labeling
  - 8.001 - Packing Material for Transport
- Section 9 - Storage and Distribution
  - 9.001 - Storage and Handling
    - 9.001.01 - Storage and Handling Bulk Ingredients
  - 9.002 - Product Shipping
- Section 10 – Complaints
  - 10.001- Receiving, Handling, and Resolving Customer Complaints
  - 10.002- Product Recall
- Section 11 - Emergencies
  - 11.001 – Accidents
  - 11.002 – Security
- Section 12 - Good Manufacturing Practices (“GMP”)
  - 12.001 - Pharmaceutical GMP
  - 12.002 - Consumer Product Manufacturing GMP
- Section 13 - Essential Oil Extraction
  - 13.001 - CO2 Extraction Procedure
  - 13.002 - LPG Extraction Procedures
- Section 14 – Product Manufacturing
  - 14.001 - Sub-lingual Tincture (SLT)
    - i. SLT Production
    - ii. Product Specification Sheet
  - 14.002- Oral Capsules (OC)



- i. Gel-cap Production
    - ii. Product Specification Sheet
  - 14.003 - Oral Use Syringe (OS)
    - i. Oil & Oil Extract Delivery
    - ii. Product Specification Sheet
  - 14.004 - Transdermal Lotion (TDL)
    - i. Topical Lotions, Creams and Salves
    - ii. Product Specification Sheet
  - 14.005- Herbal Lozenges (HL)
    - i. Orally Dissolving Sub-lingual Tablet
    - ii. Product Specification Sheet
- Section 15 – Financial Administration
  - 15.001 – Account Receivable
  - 15.002 – Accounts Payable
  - 15.003 – Payroll
  - 15.004 – Ordering Supplies



## 2.4.2 - Product Development and Manufacturing Workflow



### 2.4.3 - Carbon Dioxide Extraction (SOP 13.001)

The following GreenLeaf Medicine (“GLM”) SOP details the methods, equipment, solvents, and gases required to process medical cannabis concentrates and medical cannabis-infused products utilizing Carbon Dioxide (CO<sub>2</sub>). The underlying support, training and backup for this SOP is provided by Isolate Extraction Systems, LLC a peer reviewed and authorized manufacturer of Super-Critical and Sub-Critical CO<sub>2</sub> Extraction Equipment.

#### GENERAL SAFETY

**Carbon Dioxide:** (1) is **Generally Recognized As Safe (GRAS)** by the FDA; (2) is chemically inert and leaves no toxic residue; (3) is a natural disinfectant; (4) is carbon neutral, rendering it an ideal solvent for oil extractions. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits, include CO<sub>2</sub> alarm.

**Handling:** Wash thoroughly after handling. High-pressure gas can be dangerous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty, keep container closed. Avoid contact with skin and clothing. Use with adequate ventilation. Avoid contact with eyes. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Never allow any unprotected part of the body to touch un-insulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.

**Storage:** Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder ambient temperatures should not exceed 52 °C (125 °F). For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

Liquid carbon dioxide works as a solvent that flows through the plant material and carries the essential oils away. Carbon dioxide then escapes as a gas, leaving the essential oil behind. The extract produced closely resembles the composition of the raw plant material. However, the



chemical composition would differ from essential oils extracted using other methods, so it might have different therapeutic qualities and safety factors. Compared to distilled oils, these extracts contain a wider range of the chemical molecules in the plants.

Each chamber is outfitted with automatic pressure relief valves for safety purposes. The addition of one emergency stop switch allows the operator to quickly shut down the system in an emergency.

All extracting environments **MUST** meet local city and fire department regulations. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Remove all ignition sources from the area.

#### **ADDITIONAL REQUIRED ITEMS:**

1. CO2 Gas (Recommended: Two-five 50lb. CO2 Gas Tanks)
2. Air Compressor
3. Lab Chiller
4. Power Hook-ups
5. Vent Tubing
6. Refining & Processing Supplies

#### **INITIAL (FIRST) CLEANING**

1. Start by cleaning all exterior walls of machine parts before cleaning interior using cleaning solvent followed by soapy water.
2. Clean interior of extraction, expansion, and accumulator chambers using cleaning solvent followed by soapy water.
3. Thoroughly dry all components after cleaning.

#### **PLANT MATERIAL PREPARATION**

- ❖ Material preparation is essential to a successful extraction, if it is not done right the finished product can be inferior and the processing time can be effected.
- ❖ Thoroughly dry the material until it will crush under pressure, but not turn to dust.
- ❖ Place the plant material in a commercial food processor or industrial herb grinder and chop to medium/ small particle size. Again, do not allow the material to turn to dust.
- ❖ Plant material can be run without chopping but the total amount of material processed per run and subsequent yield will be lower.



- ❖ With a baking sieve, sift the chopped plant material to remove unwanted stems and debris.
- ❖ The material is now ready to be loaded into the extraction chamber.

## **LOADING PLANT MATERIAL**

### **Weigh and Load Material:**

1. Open extraction chamber by removing the eight 1" bolts located at the top of the machine. Tilt the top lid flange back on the hinge to access the chamber.
2. Load the material into the chamber in 200g increments and note in the log. Firmly tamp the material with a tamping device between each 200g load. Fill the chamber to 1/2" below the surface of the extraction chamber.
3. Clean O-ring groove with a Q tip, inspect O-ring for damage, and install.
4. Fold down the lid flange install the eight 1" fasteners, do not over tighten. Always do a star pattern to tighten bolts to insure proper seat of o-ring.

## **PREPARATION AND SYSTEM WARM-UP**

### **Extractor Preparation**

1. Fill water tank to fill line. If first fill, user will need to add water until water level maintains at fill line.
2. Turn on the system by twisting on the red emergency stop button until the control panel is illuminated. The system may take a few minutes to load.

*NOTE: indicator light located on top of the control box. Green = 0-3 psi in system Yellow = 3-200 psi in system Red = >200 psi in system*

3. Once start up screen appears, Press ENTER.
4. HOME Screen. User can access System Settings (see System Settings section of the manual), Water Heater (Shown in this section), Data/Override (see Data/Override section of the manual), Set Program (see Set Program Procedure section of the manual), Run Program (see Run Program Procedure section of the manual), and Recover feature (Shown in this section). Enter passcode for all screens except water heater. User may enter any of the 3 user passcodes or master passcode. Note: master passcode must be used on initial setup or if no user passcodes are set. Master passcode is sent separately to owner and can only be reset by IES. Note: the chiller controls solvent temp.
5. RECOVER button can be used at any time from the home screen to recover or purge



solvent from the system, which will display the screen below.

6. User can recover complete system which first recovers solvent chamber then purges expansion chamber (Alternatively just the expansion chamber can be recovered).
7. Press SET TEMP button to set desired Expansion water temperature.
8. Enter desired expansion water temp and press ENTER.
9. Press PREHEAT button to preheat the system. Button will highlight yellow when selected. To Stop preheat simply return to home screen by pressing back button.
10. Water Heater Notifications area. Notifications will appear in this area of the Water Heater screen.
11. Turn on remote lab chiller. Chiller controls the solvent temperature. Temperature needs to be set on the chiller itself.
12. Set Parameters for your program stages by clicking on the SET PROGRAM button from the HOME screen and following the SET PROGRAM PROCEDURE section below.

#### **Pre Startup Checklist:**

1. Connect CO2 storage and supply lines to appropriate tanks. Open valves and check for leaks by applying a light soap solution.
2. Insure that cooling system is connected and flowing correctly, there are no leaks, and chiller water level is within mfg specs.
3. Heating system is on and running at the set points. To check if the system is actually running the user can simply touch the Expansion tank or coil with their bare hand.
4. Air compressor is powered up, pressurized, and there are no leaks.
5. All fasteners are tightened and leveling pads are leveled and locked.

#### **SET PROGRAM PROCEDURE**

1. From the Home screen press SET PROGRAM button.
2. Set Stage 1 Program Screen. From this screen the user must set the following parameters for STAGE 1:
  - 1) SET HOURS
  - 2) SET MINUTES
  - 3) SET EXPANSION TEMP
  - 4) SET SOLVENT HIGH AND LOW PRESSURE
3. Once all parameters are set for all desired stages press HOME button to return to home





screen.

## **RUN PROGRAM PROCEDURE**

1. From the Home screen press RUN PROGRAM button.
2. Enter passcode that was sent separately to owner or one of the user passcodes created by owner.
3. Warning and Safety message will appear and operator needs to confirm before program will run. CAUTION: By Selecting PUSH TO CONTINUE, the system will automatically start STAGE 1 programming.
4. **RUN PROGRAM PROCESSING is complete when all pressures read 0 psi and the LED light on top of the control box is green.**

## **REMOVAL OF EXTRACT**

### **Residual Solvent Extraction:**

After the extract has been collected there are several methods of removing residual solvent depending on the desired finished product. Time and temperature are the best methods for removing these residuals.

1. Place the extract in a flat bottom Pyrex dish.
2. Then place the dish on a hot plate and increase the temperature to 230\* F. Continuously stir the oil to prevent overheating.
3. Keep the extract at temperature until there are no bubbles being released and the surface is smooth.
4. This procedure decreases the residual solvent to below 10 ppm and removes any bleed through moisture from the plant material. The extract is now safe and ready to be consumed.

## **CLEANING**

The exterior of the system should be kept clean to promote a clean extraction environment and prevent contamination of finished product. The inside of the machine should be cleaned between each batch or strain by thoroughly wiping all inside surfaces of the extraction and separation chambers with cleaning solvent.



#### 2.4.4 - Extract Testing Protocol (SOP 7.003)

The Company shall validate its testing Laboratory utilizing the following standards. These standards of performance include but are not limited to: personnel qualifications, standard operating procedure manual, analytical processes, proficiency testing, quality control, quality assurance, security, chain of custody, specimen retention, space, records, and results reporting.

Upon completion of the validation process, the Applicant will actively pursue independent testing Laboratories that adhere to the following:

- A. That has adopted a standard operating procedure to test medical cannabis and medical cannabis concentrate that is approved by an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement;
  - 1) Maintain conformity with the current version of ISO/IEC 17011 Conformity assessment – General requirements for bodies providing assessment and accreditation of conformity assessment bodies and supplementary requirements documents.
  - 2) Ensure that all laboratories and inspection bodies that are accredited comply with appropriate laboratory and inspection bodies standards (currently ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories*, ISO 15189 *Medical Laboratories – Requirements for quality and competence*, and ISO/IEC 17020 *Conformity assessment – Requirements for the operation of various types of bodies performing inspection*).
- B. To obtain samples of each batch according to a statistically valid sampling method by an agent of an independent testing laboratory;
- C. To analyze the samples according to:
  - 1) The most current version of the cannabis inflorescence monograph published by the American Herbal Pharmacopeia (AHP); or
  - 2) A scientifically valid methodology that is equal or superior to that of the AHP monograph;
  - 3) In the event of a test result which falls out of specification, the laboratory shall follow their standard operating procedure to confirm or refute the original result;



- 4) To issue a certificate of analysis; and
- (1) High performance Liquid Chromatography (HPLC) for all potency testing and Gas Chromatography (GC) for residual solvent analysis. HPLC provides a full panel of the cannabinoid potency as well as the homogeneity of the product.
- (2) For Microbial Testing, the laboratory will use Real Time Polymerase Chain Reaction (qPCR) technology and standard plating techniques for APC (aerobic plate count).

If the sample is found to have a contaminant in levels exceeding those established as permissible by the Department, the sample will be considered to have failed contaminant testing. In the event a test result has failed a containment or potency test, the company shall destroy the batch or reformulate oil accordingly and report the failure in accordance with all BioTrackTHC procedures.



#### **2.4.5 - Process Validation Procedures (SOP 7.002)**

The following SOP details the GLM protocols to carry out process validation on the first ten (10) lots of any new Medical Cannabis Concentrate (MCC), Medical Cannabis-Infused Product (MCIP), or process, to establish the validity of the production process and is provided for in conjunction with GLM's SOP surrounding Pharmaceutical Manufacturing and Consumer Product Manufacturing (SOP 12.001 & 12.002).

##### **Process Validation of MCC and MCIP Quality**

Ensuring that an effective process validation is in place significantly assures product quality. The basic principle of quality assurance is that all MCCs and MCIPs should be produced in a way that is fit for its intended use. This principle incorporates the understanding that the following conditions exist:

1. Quality, safety, and efficacy are designed or built into the product.
2. Quality cannot be adequately assured merely by in-process and finished-product inspection or testing.
3. Each step of the manufacturing process is controlled to assure that the finished product meets all quality attributes including specifications.

##### **Approach to Process Validation**

*Process Validation* is defined herein as the collection and evaluation of data, from the process design stage through commercial production, which establishes scientific evidence that a process is capable of consistently delivering quality product. Process validation involves a series of activities taking place over the lifecycle of the product and process. This SOP describes process validation activities in the following three stages.

*Stage 1 – Process Design:* The commercial manufacturing process is defined during this stage based on knowledge gained through development and scale-up activities.

*Stage 2 – Process Qualification:* During this stage, the process design is evaluated to determine if the process is capable of reproducible commercial manufacturing.

*Stage 3 – Continued Process Verification:* Ongoing assurance is gained during routine production that the process remains in a state of control.

Before any MMC or MCIP batch from the process is commercially distributed for use by consumers, GLM shall have gained a high degree of assurance in the performance of the



manufacturing process such that it will consistently produce MMCs and MCIPs meeting those attributes relating to identity, strength, quality, purity, and potency. The assurance will be obtained from objective information and data derived in conjunction with a licensed Hawaii Department of Health (HDH) laboratory. Information and data will demonstrate that the commercial manufacturing process is capable of consistently producing acceptable quality products within the GLM manufacturing operation.

**Stage 1 - Process Design.** The goal of this stage is to design a process suitable for routine commercial manufacturing that can consistently deliver a MCIP that meets its quality attributes. Each GLM product shall be developed in accordance with HDH limitations on dosing surrounding Cannabinoid content.

**Step 1 - Raw Cannabis Testing.** In order to achieve the desired Cannabinoid contents each initial batch of raw Cannabis plant matter shall be tested prior to extraction. This knowledge will provide the processor agent with the information necessary to qualify extraction efficiency. Additionally these test results will allow processing agent to further verify that raw Cannabis is void of any contaminants, microbial or fungus per HDH rules and regulations.

**Step 2 - Perform Extraction.** Performed extraction shall commence assuming raw Cannabis is void of contaminants previously mentioned. All GLM products shall utilize Carbon Dioxide (CO2) extracted MCC. GLM SOP 12.001 details the protocols surrounding effective extraction utilizing CO2 as a solvent medium.

**Step 3 - MC Testing.** Once MCC has been recovered from the extraction process, it is immediately sent out for third party testing by approved HDH facility.

**Step 4 – Product Formulation.** Upon receiving test results, processor agent shall begin the manufacturing phase for the intended MCIP. Initially GLM intends to produce three (3) distinct products with varying Cannabinoid Extracted Oil Concentrations Per Weight (%). Production of each product is defined in GLM SOPs Sections 13-15. Processor agent will rely upon test results to formulate each product based on the desired concentrations defined by the product specifications as set forth by GLM Management in Section 3.c.i of this application and in compliance with HDH rules and regulations surrounding Cannabinoid dosing.

**Step 5 – MCIP Testing.** Upon final formulation each batch produced shall be sent to out for third party testing by an approved HDH testing facility.



**Step 6 – Process Repetition.** Following a successful test result with the desired Cannabinoid and non-active ingredient levels, processor agent shall repeat Steps 1-5 an additional 9 times to verify and complete Stage 1 Process Design.

**Stage 2 - Process Qualification.** During the process qualification (PQ) stage of process validation, the process design is evaluated to determine if it is capable of reproducible commercial manufacture. This stage has two elements: (1) design of the facility and qualification of the equipment and utilities and (2) process performance qualification (PPQ). During Stage 2, CGMP-compliant procedures must be followed. Successful completion of Stage 2 is necessary before commercial distribution. MCIPs manufactured during this stage, if acceptable, can be released for distribution.

**Step 1- Design of a Facility and Qualification of Utilities and Equipment.** Proper design of a manufacturing facility is required under part 211, subpart C, of the GMP regulations on *Buildings and Facilities*. It is essential that activities performed to assure proper facility design and commissioning precede PPQ. Here, the term *qualification* refers to activities undertaken to demonstrate that utilities and equipment are suitable for their intended use and perform properly. These activities necessarily precede manufacturing products at the commercial scale.

Qualification of utilities and equipment shall include the following activities:

1. Selecting utilities and equipment construction materials, operating principles, and performance characteristics based on whether they are appropriate for their specific uses.
2. Verifying that utility systems and equipment are built and installed in compliance with the design specifications (e.g., built as designed with proper materials, capacity, and functions, and properly connected and calibrated).
3. Verify that utility systems and equipment operate in accordance with the process requirements in all anticipated operating ranges. This includes challenging the equipment or system functions while under load comparable to that expected during routine production. It also includes the performance of interventions, stoppage, and start-up as is expected during routine production.



**Step 2 - Process Performance Qualification (PPQ).** The PPQ combines the actual facility, utilities, equipment (each now qualified), and the trained personnel with the commercial manufacturing process, control procedures, and components to produce commercial batches. A manufacturer must successfully complete PPQ before commencing commercial distribution of the drug product.

**Stage 3 - Continued Process Verification.** The goal of the third validation stage is continual assurance that the process remains in a state of control (the validated state) during commercial manufacture. Adherence to the GMP requirements, specifically, the collection and evaluation of information and data about the performance of the process, will allow detection of undesired process variability. Evaluating the performance of the process identifies problems and determines whether action must be taken to correct, anticipate, and prevent problems so that the process remains in control.

An ongoing program to collect and analyze product and process data that relate to product quality must be established. The data collected should include relevant process trends and quality of incoming materials or components, in-process material, and finished products. The data should be statistically trended and reviewed by trained personnel. The information collected should verify that the quality attributes are being appropriately controlled throughout the process.



## **2.4.6 – Infused Product Manufacturing (SOP’s 12.001-12.002 & 14.001-14.005)**

The following plan represents an overview of the Company’s contemplated operational parameters and controls surrounding infused medical Cannabis product manufacturing. In order to achieve the highest production efficiency and quality products for the end-patient, the Company intends to manufacture products utilizing Good Manufacturing Practices commonly accepted in both the Pharmaceutical and Consumer Product manufacturing space as recommended by the FDA. The Company feels this is necessary, as the contemplated product line comprises manufacturing elements from both traditional industries.

### ***2.4.6.1 - Pharmaceutical Manufacturing (SOP 12.001)***

The following SOP details Good Manufacturing Practices (GMP) for pharmaceutical manufacturers and will provide the methods and controls used for the manufacturing, processing, packaging or holding of medical marijuana products to assure that the medical marijuana products meet the minimum safety requirements and have the identity, strength, quality and purity characteristics required.

#### **General**

The key to all GMP is documentation. Adherence to these principles requires the maintaining of production, control and distribution records and the retention of these records for a minimum period of time after the expiration date of an active ingredient, a batch of a , medical marijuana product, or other set marker. They should require retained records be readily available for inspection during the retention period at the establishment where the activities described occurred. At a minimum records and data contained within should be evaluated, at least annually, to determine quality standards of each medical marijuana product. Adherents should also conduct a review of the medical marijuana product specifications at this time.

#### **Records and Reports**

*Master Production Records* – In order to assure uniformity from batch to batch GMP require the maintaining of master production and control records for each medical marijuana product which include: (i) name and strength of the product and a description of the dosage form; (ii) name and weight or volume of each active ingredient per dosage unit and a statement of the total weight or volume of any dosage unit; (iii) a complete list of components designated by





names or codes sufficiently specific to indicate any special quality characteristics; (iv) an accurate statement of the weight or volume of each component; (v) a statement concerning any calculated excess of component; (vi) a statement of theoretical weight or volume at appropriate phases of processing; (vii) a statement of theoretical yield, including the maximum and minimum percentage theoretical yield beyond which investigation is required; (viii) a description of the medical marijuana product containers, closures, and packaging materials including a specimen or copy of each label and all other labeling; and (ix) complete manufacturing and control instructions, sampling and testing procedures, specifications, special notations, and precautions to be followed.

*Batch Records* – GMP require the maintaining of batch production and control records which include: (i) a copy of the appropriate master production and control record; (ii) documentation that each significant step in the manufacturing, processing, packaging and holding of the batch was accomplished, including: dates, identity of major equipment and lines used, specific identification of each batch of component or in-process material used, weights or volumes of components used in the course of processing, in-process and laboratory control results, inspection of the packages and labeling area before and after use, statement of actual yield and a statement of percentage of theoretic yield at appropriate phases of processing, complete labeling records, including specimens or copies of all labeling, description of medical marijuana product containers and closures, any sampling performed, identification of the persons performing and directly supervising or checking significant step in the operation, any investigation, and results of examinations.

*Laboratory Records* – GMP require the maintaining of all data derived from all tests necessary to assure compliance with established specifications, including: (i) a description of the sample received for testing with identification of source, quantity, lot number or other distinctive code, date sample was taken, and date sample was received for testing, a statement of each method used in the testing of the sample, a statement of the weight of sample used for each test, a complete record of all data secured in the course of each test, a record of all calculations performed in connection with the test, a statement of results of tests and how the results compare with established standards of identify, strength, quality, and purity for the component, medical marijuana product container, closure, in-process material, or medical marijuana product tested, the signature of the person who performed each test and the date the tests were performed, the signature of a second



person showing the original records have been reviewed for accuracy, completeness, and compliance with established standards; (ii) any modifications of an established metric employed in testing; (iii) any testing and standardization of laboratory reference standards; (iv) periodic calibration of laboratory instruments, apparatus, gauges, and recording devices; and (v) all stability testing.

*Component, Container and Labeling Records* – GMP require the maintaining of component, medical marijuana product container, closure and labeling records which include: (i) the identity and quantity of each shipment of each lot of components, medical marijuana product containers, closures, labeling, the name of the supplier, the supplier's lot number if known, the receiving code; and the date of receipt; (ii) the results of any test or examination performed and conclusions derived; (iii) an individual inventory record of each component, medical marijuana product container, and closure, and for each component, a reconciliation of the use of each lot of such component; (iv) documentation of the examination and review of labels and label conformity to established specifications; and (v) the disposition of rejected components, medical marijuana product containers, closure and labeling.

*Distribution Records* – GMP require the maintaining of distribution records which include the name and strength of each medical marijuana product and describe the dosage form, name and address of the consignee, date and quantity shipped, and control number of the medical marijuana product.

*Complaint File* – GMP require the establishment and following of written procedures for the handling of written and oral complaints. Complaint records must be maintained at the establishment where the drug product was manufactured, processed, or packed and must be maintained at least 1 year after the expiration of the drug product or one year after the complaint was received, whichever is longer. Complaint records must include: (i) the name and strength of the drug product; (ii) lot number; (iii) name of the complainant; (iv) nature of the complaint; and (v) reply to complainant. Complaint records must also indicate if an investigation was conducted, the results of investigation or, if no investigation, the reason so.

### **Production and Process Controls**

GMP require the establishment and following of written procedures for production and process controls designed to assure that the medical marijuana products have the identity, strength, quality and purity they purport to possess. They require the documentation of



performance of compliance with established written procedures for production and process controls.

*Validation* – GMP require the establishment and following of written procedures that detail in-process controls, tests, or examinations to be conducted to assure batch uniformity and integrity (i.e., identity, strength, quality and purity) of in-process materials of each batch and the final medical marijuana product. In- process controls can include, but are not limited to, the following: (i) capsule, vaporizer, and sublingual oral mucosal tincture; weight or volume variation; (ii) disintegration time; (iii) adequacy of mixing to assure uniformity and homogeneity; (iv) dissolution time and rate; (v) clarity and completeness of solutions. Rejected in-process materials must be identified to prevent use in manufacturing and processing operations. GMP require the establishment and following of written procedures of a system for reprocessing batches found not to conform to specifications and actions necessary to ensure that the reprocessed batch conforms to established specifications.

### **Laboratory Controls**

GMP require the establishment and following of scientifically sound and appropriate specifications, standards, sampling plans, and/or test procedures designed to assure identity, strength, quality and purity, including the following: (i) determination of conformance to applicable written specifications for the acceptance of each lot within each shipment of components, medical marijuana product containers, closures, and labeling used in the manufacture, processing, packing, or holding of medical marijuana products; (ii) determination of conformance to written specifications and a description of samples and testing procedures for in- process materials; (iii) determination of conformance to written descriptions of sampling procedures and appropriate specification for medical marijuana products

*Testing and Release for Distribution* – For each batch of medical marijuana product, there must be appropriate laboratory determination of satisfactory conformance to final specifications for the medical marijuana product, including the identity and strength of each active ingredient, prior to release. Any sampling and testing plans must be described in written procedures which include the method of sampling and the number of units per batch to be tested. Medical Cannabis Infused Products failing to meet established standards or specification and any relevant quality control criteria must be rejected.



*Stability Testing* – The establishment and following of a written testing program designed to assess the stability characteristics of medical marijuana products. The results of such stability testing must be used in determining appropriate storage conditions and expiration dates.



### **Quality Control Unit**

GMP require the establishment of a quality control unit, as well as written procedures and responsibilities, with authority to approve or reject everything from medical marijuana components to the final medical marijuana product. This quality control unit must have adequate laboratory facilities for the testing and approval or rejection of medical marijuana components or final medical marijuana products if such facilities are not available in house, a licensed Hawaii Department of Health laboratory shall be deemed acceptable. The unit is also responsible for approving or rejecting procedures or specifications impacting on the identity, strength, quality, and purity of the medical marijuana product.

### **Packaging and Labeling Controls**

*Materials Examination and Usage Criteria* – GMP require the establishment and following of written procedures describing the receipt, identification, storage, handling, sampling, examination, and/or testing of labeling and packaging materials. Labeling and packaging materials must be representatively sampled, and examined or tested upon receipt and before use in packaging or labeling of a medical marijuana product. Records must be maintained for each shipment received of each different label and packaging material indicating receipt, examination or testing, and whether accepted or rejected.

*Labeling Issuance* – GMP require the establishment and following of control procedures for the issuance of labeling. Labeling materials issued for a batch must be carefully examined for identity and conformity to the labeling specified in the master or batch production records. Procedures must be used to reconcile the quantities of labeling issued, used, and returned, and must require evaluation of discrepancies found between the quantity of medical marijuana product finished and the quantity of labeling issued when such discrepancies are outside narrow preset limits based on historical operating data.

*Packaging and Labeling Operations* – GMP require the establishment and following of written procedures designed to assure that correct labels, labeling and packaging materials are used for medical marijuana products and incorporate the following features: (i) prevention of mix-ups and cross-contamination by physical or spatial separation from operations on other medical marijuana products; (ii) identification and handling of filled medical marijuana product containers that are set aside and held in unlabeled condition for future labeling operations to preclude mislabeling of individual containers, lots, or portions of lots; (iii) identification of the



medical marijuana product with a lot or control number that permits determination of the history of the manufacture and control of the batch; (iv) examination of packaging and labeling materials for suitability and correctness before packaging operations, and documentation of such examination in the batch production.

*Medical Cannabis Infused Product Inspection* – GMP require the examination of packaged and labeled products during finishing operations to assure that containers and packages in the lot have the correct label. Adherents are required to maintain records of examinations and inspections.

*Expiration dating* – GMP also require medical marijuana products bear an expiration date determined by appropriate stability testing to assure it meets identity, strength, quality, and purity at the time of use. Expiration date must be related to any storage conditions stated on the labeling, as determined by stability testing.

### **Holding and Distribution**

*Warehousing Procedures* – GMP require the establishment and following of written procedures describing the warehousing of medical marijuana products, including description of procedures for: (i) quarantine of medical marijuana products before release by the quality control unit; and (ii) storage of medical marijuana products under appropriate conditions of temperature, humidity and light so that identity, strength, quality, and purity of the medical marijuana products are not affected.

*Distribution Procedures* – GMP require the establishment and following of written procedures describing the distribution of products, including: (i) a procedure whereby the oldest approved stock of a medical marijuana product is distributed first and the distribution of each lot of medical marijuana product can be readily determined to facilitate its recall if necessary.

### **Building and Facilities Controls**

GMP require the maintaining of separately defined areas of operations within the building or buildings to prevent contamination or mix-ups during the course of the following procedures: (i) receipt, identification, storage, and withholding from use of components, medical marijuana containers, closures, and labeling, pending the appropriate sampling, testing, or examination by the quality control unit before release for manufacturing or packaging; (ii) holding rejected or quarantined components, medical marijuana product containers, closures, and labeling before disposition; (iii) storage of released components, medical marijuana product



containers, closures, and labeling; (iv) storage of in-process material; and (v) aseptic processing, which includes as appropriate: (a) floors, walls and ceilings of smooth, hard surfaces that are easily cleanable; (b) temperature and humidity controls.

### **Equipment Controls**

GMP require the establishment and following of written procedures for cleaning and maintenance of equipment, including utensils, used in the manufacture, processing, packing, or holding of a medical marijuana product. Equipment and utensils must be cleaned, maintained, and, as appropriate for the nature of the medical marijuana product, sanitized and sterilized at appropriate intervals to prevent malfunctions or contamination that would alter the safety, identity, strength, quality, or purity of the medical marijuana product.

#### ***2.4.6.2 - Consumer Product Manufacturing (SOP 12.002)***

All operations in the receiving, inspecting, transporting, segregating, preparing, manufacturing, packaging, and storing of product shall be conducted in accordance with adequate sanitation principles. Appropriate quality control operations shall be employed to ensure that product is suitable for human consumption and that product-packaging materials are safe and suitable. Overall sanitation of the plant shall be under the supervision of a manager trained in sanitation standard operating procedures per Hawaii Department of Health Regulations. All reasonable precautions shall be taken to ensure that production procedures do not contribute contamination from any source. Chemical, microbial, or extraneous-material testing procedures shall be used where necessary to identify sanitation failures or possible product contamination. All product that has become contaminated shall be rejected, or if permissible, treated or processed to eliminate the contamination.

##### ***A) Raw materials and other ingredients.***

(1) Raw materials and other ingredients shall be inspected and segregated or otherwise handled as necessary to ascertain that they are clean and suitable for processing into product and shall be stored under conditions that will protect against contamination and minimize deterioration. Raw materials shall be washed or cleaned as necessary to remove soil or other contamination. Water used for washing, rinsing, or conveying product shall be safe and of adequate sanitary quality. Water may be reused for washing, rinsing, or conveying product if it does not increase the level of contamination of the product.



Containers and carriers of raw materials should be inspected on receipt to ensure that their condition has not contributed to the contamination or deterioration of product.

(2) Raw materials and other ingredients shall either not contain levels of microorganisms that may produce product poisoning or other disease in humans, or they shall be pasteurized or otherwise treated during manufacturing operations so that they no longer contain levels that would cause the product to be adulterated. Compliance with this requirement may be verified by any effective means, including purchasing raw materials and other ingredients under a supplier's guarantee or certification.

(3) Raw materials and other ingredients susceptible to contamination with aflatoxin or other natural toxins shall comply with current regulations and action levels for poisonous or deleterious substances before these materials or ingredients are incorporated into finished product. Compliance with this requirement may be accomplished by purchasing raw materials and other ingredients under a supplier's guarantee or certification, or may be verified by analyzing these materials and ingredients for aflatoxins and other natural toxins.

(4) Raw materials, other ingredients, and rework susceptible to contamination with pests, undesirable microorganisms, or extraneous material shall comply with applicable Department regulations and defect action levels for natural or unavoidable defects if a manufacturer wishes to use the materials in manufacturing product. Compliance with this requirement may be verified by any effective means, including purchasing the materials under a supplier's guarantee or certification, or examination of these materials for contamination.

(5) Raw materials, other ingredients, and rework shall be held in bulk, or in containers designed and constructed so as to protect against contamination and shall be held at such temperature and relative humidity and in such a manner as to prevent the product from becoming adulterated. Material scheduled for rework shall be identified as such.

(6) Liquid or dry raw materials and other ingredients received and stored in bulk form shall be held in a manner that protects against contamination.

#### B) *Manufacturing operations.*





(1) Equipment and utensils and finished product containers shall be maintained in an acceptable condition through appropriate cleaning and sanitizing, as necessary. Insofar as necessary, equipment shall be taken apart for thorough cleaning.

(2) All product manufacturing, including packaging and storage, shall be conducted under such conditions and controls as are necessary to minimize the potential for the growth of microorganisms, or for the contamination of product. One way to comply with this requirement is careful monitoring of physical factors such as time, temperature, humidity, aw, pH, pressure, flow rate, and manufacturing operations such as freezing, dehydration, heat processing, acidification, and refrigeration to ensure that mechanical breakdowns, time delays, temperature fluctuations, and other factors do not contribute to the decomposition or contamination of product.

(3) Product that can support the rapid growth of undesirable microorganisms, particularly those of public health significance, shall be held in a manner that prevents the product from becoming adulterated. Compliance with this requirement may be accomplished by any effective means, including:

- (i) Maintaining refrigerated products at 45 deg. F (7.2 deg. C) or below as appropriate for the particular product involved.

- (ii) Maintaining extracted oils at 140 deg. F (60 deg. C) or above during infusion processing.

- (iii) Heat treating acid or acidified products to destroy mesophilic microorganisms when those products are to be held in hermetically sealed containers at ambient temperatures.

(4) Measures such as sterilizing, pasteurizing, freezing, refrigerating, controlling pH or controlling aw that are taken to destroy or prevent the growth of undesirable microorganisms, particularly those of public health significance, shall be adequate under the conditions of manufacture, handling, and distribution to prevent product from being adulterated.

(5) Work-in-process shall be handled in a manner that protects against contamination.

(6) Effective measures shall be taken to protect finished product from contamination by raw materials, other ingredients, or refuse. When raw materials, other ingredients, or



refuse are unprotected, they shall not be handled simultaneously in a receiving, loading, or shipping area if that handling could result in contaminated product. Product transported by conveyor shall be protected against contamination as necessary.

(7) Equipment, containers, and utensils used to convey, hold, or store raw materials, work-in-process, rework, or product shall be constructed, handled, and maintained during manufacturing or storage in a manner that protects against contamination.

(8) Effective measures shall be taken to protect against the inclusion of metal or other extraneous material in product. Compliance with this requirement may be accomplished by using sieves, traps, magnets, or other suitable effective means.

(9) Product, raw materials, and other ingredients that are adulterated shall be disposed of in a manner that protects against the contamination of other product. If the adulterated product is capable of being reconditioned, it shall be reconditioned using a method that has been proven to be effective.

(10) Mechanical manufacturing steps such as washing, peeling, trimming, cutting, sorting and inspecting, mashing, dewatering, cooling, shredding, extruding, drying, emulsifying, blending, and forming shall be performed so as to protect product against contamination. Compliance with this requirement may be accomplished by providing adequate physical protection of product from contaminants that may drip, drain, or be drawn into the product. Protection may be provided by adequate cleaning and sanitizing of all product-contact surfaces, and by using time and temperature controls at and between each manufacturing step.

(11) Filling, assembling, packaging, and other operations shall be performed in such a way that the product is protected against contamination. Compliance with this requirement may be accomplished by any effective means, including:

- (i) Use of a quality control operation in which the critical control points are identified and controlled during manufacturing.
- (ii) Adequate cleaning and sanitizing of all product-contact surfaces and product containers.
- (iii) Using materials for product containers and product- packaging materials that are safe and suitable.



(iv) Providing physical protection from contamination, particularly airborne contamination.

(v) Using sanitary handling procedures.

(12) Product such as, but not limited to, acid and acidified product, that relies principally on the control of pH for preventing the growth of undesirable microorganisms shall be monitored and maintained at an appropriate pH level. Compliance with this requirement may be accomplished by any effective means, including employment of one or more of the following practices:

(i) Monitoring the pH of raw materials, product in process, and finished product.

(ii) Controlling the amount of acid or acidified ingredients added to the product.

(13) When ice is used in contact with product, it shall be made from water that is safe and of adequate sanitary quality, and shall be used only if it has been manufactured in accordance with current good manufacturing practice as outlined in this part.

#### C) *Sanitary Operations.*

(1) *General maintenance.* Buildings, fixtures, and other physical facilities of the plant shall be maintained in a sanitary condition and shall be kept in repair sufficient to prevent product from becoming adulterated. Cleaning and sanitizing of utensils and equipment shall be conducted in a manner that protects against contamination of product, product-contact surfaces, or product-packaging materials.

(2) *Substances used in cleaning and sanitizing; storage of toxic materials.* (1) Cleaning compounds and sanitizing agents used in cleaning and sanitizing procedures shall be free from undesirable microorganisms and shall be safe and adequate under the conditions of use. Compliance with this requirement may be verified by any effective means including purchase of these substances under a supplier's guarantee or certification, or examination of these substances for contamination. Only the following toxic materials may be used or stored in a plant where product is processed or exposed:

(i) Those required to maintain clean and sanitary conditions;

(ii) Those necessary for use in laboratory testing procedures;

(iii) Those necessary for plant and equipment maintenance and operation; and

(iv) Those necessary for use in the plant's operations.



(3) Toxic cleaning compounds, sanitizing agents, and pesticide chemicals shall be identified, held, and stored in a manner that protects against contamination of product, product-contact surfaces, or product-packaging materials. All relevant regulations promulgated by other Federal, State, and local government agencies for the application, use, or holding of these products should be followed.

D) *Pest control.* No pests shall be allowed in any area of the plant. Guard or guide dogs may be allowed in some areas of a plant if the presence of the dogs is unlikely to result in contamination of product, product-contact surfaces, or product-packaging materials. Effective measures shall be taken to exclude pests from the processing areas and to protect against the contamination of food on the premises by pests. The use of insecticides or rodenticides is permitted only under precautions and restrictions that will protect against the contamination of product, product-contact surfaces, and product-packaging materials.

E) *Sanitation of product-contact surfaces.* All product-contact surfaces, including utensils and product-contact surfaces of equipment, shall be cleaned as frequently as necessary to protect against contamination of product.

(1) Product-contact surfaces used for manufacturing or holding low-moisture product shall be in a dry, sanitary condition at the time of use. When the surfaces are wet-cleaned, they shall, when necessary, be sanitized and thoroughly dried before subsequent use.

(2) In wet processing, when cleaning is necessary to protect against the introduction of microorganisms into product, all product-contact surfaces shall be cleaned and sanitized before use and after any interruption during which the product-contact surfaces may have become contaminated. Where equipment and utensils are used in a continuous production operation, the utensils and product-contact surfaces of the equipment shall be cleaned and sanitized as necessary.

(3) Non-product-contact surfaces of equipment used in the operation of the plant should be cleaned as frequently as necessary to protect against contamination of product.

(4) Single-service articles (such as utensils intended for one-time use, paper cups, and paper towels) should be stored in appropriate containers and shall be handled, dispensed, used, and disposed of in a manner that protects against contamination of product or product-contact surfaces.



(5) Sanitizing agents shall be adequate and safe under conditions of use. Any facility, procedure, or machine is acceptable for cleaning and sanitizing equipment and utensils if it is established that the facility, procedure, or machine will routinely render equipment and utensils clean and provide adequate cleaning and sanitizing treatment.

F) *Storage and handling of cleaned portable equipment and utensils.* Cleaned and sanitized portable equipment with product-contact surfaces and utensils should be stored in a location and manner that protects product-contact surfaces from contamination.



### 2.4.6.3 Product Specifications (SOP 14.001-14.005)

The following SOP details the proposed medical products, formulations and extracts infused with CO2 Cannabis extract as specified by the State of Hawaii Department of Health Medical Marijuana Dispensary System Application. GLM is proposing a total of three (5) products for phase one of the contemplated operations. These products consist of the following: (1) Sub-Lingual Oro-Mucosal Tincture; (2) Oral Capsules; (3) Oral Use Syringe; (4) Transdermal Ointment; and (5) Herbal Lozenges. Each product shall be produced in 4 distinct Cannabinoid Extracted Oil Concentrations Per Weight (%) and per the formulations further described below (Cannabinoid concentrations provided by Denver Packaging Company, LLC MIP #00362, a licensed Colorado Medical Marijuana Infused Product Manufacturer).

#### 1. Sub-Lingual Oro-Mucosal Tincture (GLM-TINC)

- a. Description: 1oz Cannabinoid-Veg Glycerin Tincture
- b. Formulation & Strength: 300mg comprising 30 Servings at 10mg/1ml (SOP Section 13.001)
- c. Packaging: 1 ounce Droppers with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- d. Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM- TINC	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TINC01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TINC02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TINC03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TINC04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%



## 2. Oral Capsules (GLM-CAP)

- Description: 30 MCT Cannabinoid blended Oral Liquid Capsules
- Formulation & Strength: 300 mg total per container comprising 30 total doses at 10mg/capsule (SOP Section 14.001)
- Packaging: White HDPE Pharmaceutical Rounds with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-CAP	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
CAP01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
CAP02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
CAP03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
CAP04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

## 3. Oral Use Syringe (GLM-OS)

- Description: Oral delivery syringe filled with Cannabinoid rich CO2 extracted essential oil
- Formulation & Strength: 300mg active Cannabinoids per 5ml syringe comprising 30 total doses at 10mg per serving
- Packaging: 5 ml Oral Medication Syringe With Tip Cap with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-OS	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
OS01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
OS02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
OS03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
OS04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

## 4. Transdermal Ointment (GLM-TDO)



- a. Description: Transdermal Ointment infused with Cannabinoid rich CO2 extracted essential oil
- b. Formulation & Strength: 400 mg total active Cannabinoids per 4 ounce container
- c. Packaging: 4 ounce White HDPE Rexam Pharmaceutical Ointment Jars with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- d. Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-TDO	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TDO01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TDO02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TDO03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TDO04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

#### 5. Herbal Lozenges (GLM-LOZ)

- a. Description: Solid consumable medicated tablet that designed to be held in the mouth for slow oral dissolution.
- b. Formulation & Strength: 100 mg total per package comprising 10 total doses at 10mg/tablet
- c. Packaging: 10 count blister pack with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- d. Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-LOZ	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
LOZ01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
LOZ02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
LOZ03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
LOZ04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%





## **Appendix 2.5 - Dispensary Plan Overview**

GLM will license standard operating procedures developed and refined by Medicine Man Technologies (“MMT”) through their relationship with Medicine Man Denver (“MMD”). Within these standard operating procedures, quality service is of paramount interest. MMD’s team of dispensary agents will share their knowledge and first-hand accounts from qualified patients in Colorado in regard to the best applications for the core varieties of medical marijuana genetics, including: Sativa, Indica, Hybrid and CBD.

### **2.5.1 - Standard Operating Procedure (“SOP”)**

Standard operating procedures for the safe, secure, and successful management of medical marijuana within a patient-facing environment are broken out as follows:

**Inventory Control System / Point of Sale (POS) Software:** user interface, barcodes, state ID tags, transaction tracking, reports, transactions, and data entry into inventory control system;

**Patient Consultation:** first time patient, receptionist check in, marijuana consultation, manufactured marijuana product consultation, dosage, education, patient literature and resources;

**Security Process and Procedures:** patient check in, employee check in, vendor check in, ID verification, safety features, life safety plans, cash handling, transportation, diversion;

**Packaging:** labeling, exit bags;

**Administration / Operational Best Practices:** ordering/buying, work flow, record keeping, book keeping, compliance, maintenance, opening & closing procedures, cash handling, inventory control, product rotation, product return and disposal, product recalls.

#### ***2.5.1.1 - Dispensary Training Protocol***

The dispensary agent training process involves engaging GLM Managers and Key Personnel of each job classification at MMD’s facilities in the specific training regimens needed to secure their proficiency in understanding the performance basics of the position they are being hired to fulfill. This on-site time at an operational facility in Denver allows them to participate in active training at a fully functioning business which has deployed proven methodology in regard to retailing medical marijuana. This environment will provide trainees the ability to learn the associated tasking through repetitive exposure to the various duties they will be performing on a day-to-day basis.



The on-site training intervals are broken out into five key processes:

1. Review specific department training videos, which are broken out by specific functions of the medical dispensary process, i.e.: POS system, security, and patient consultation. Followed by a question and answer session.
2. Review of the cut sheet summaries pertaining to the training videos, which include a detailed step-by-step explanation of the duties and tasking, provided in the training videos. Followed by a question and answer session.
3. Reviewing specific departmental standard operating procedures within the MMT Dispensary Manual, pertaining to the training videos and cut sheets. Followed by a question and answer session.

Perform the function within the MMD licensed medical dispensary, which can be in the form of:

- a. Observation and job shadowing;
- b. Actively asking questions to instructing dispensary agents;
- c. Performing the functions within a live operating environment; this hands on training will be repeated several times within the training process;
- d. Teach the teacher; enabling trainees within the live environment to teach the functions to the instructing dispensary agent while also receiving feedback on the process;
- e. General de-briefing of the four-step training process for group follow up and question and answer.

This training and integration generally takes place over a period of two-three weeks, schedule in one week intervals, but may be repeated as needed to the benefit of GLM upon request. As a result of the arrangement with MMT, GLM has access to an operational medical marijuana dispensary assuring that GLM Management and Key Personnel will be getting exposure to current best practices within this industry.

These training intervals are broken out as follows:

**Week 1:** General overview of the medical marijuana dispensary process. Example week:

*Monday:* Review all training videos, training cut sheets, and standard operating procedures pertaining to general retail operations. Follow up question and answer session. Begin job shadowing and observation within the medical dispensary.

*Tuesday:* Debrief of Monday's training exercises, question and answer for clarifying questions and learning's, job shadowing and observation within the marijuana dispensary.



*Wednesday:* Job shadowing and observation within the marijuana dispensary

*Thursday:* Job shadowing and observation within the marijuana dispensary.

*Friday:* Administrative overview, including: human resources, tax, compliance, record keeping.

**Week 2:** Repeat of week 1 (general overview of the medical marijuana dispensary process).

**Week 3:** Focused on specific review from week 1 and 2 on-site training.

Within each week that trainees are on-site, there is a daily debrief and follow up question and answer session to ensure that standard operating procedures and expectations are being met.

Generally, GLM Management and Key Personnel of each team will receive feedback from the MMD staff that is designed to help point out both strengths as well as weaknesses as they are brought out by the training. This will allow GLM adequate time to schedule additional training follow up as needed to perform the tasks outlined in the standard operating procedures before becoming operational. This follows the basics of planned job deployments on a practical application basis and as additionally requested once the initial training interval is completed at the MMD location.

Follow up training by MMD staff as needed or requested by GLM is available onsite at their facility; particularly once the dispensary agents have been hired as well as the first week of operations of the business. Additional custom training as well as interim contract support for positions that may still be vacant or that were vacated abruptly are also available to GLM via the arrangement with MMT as needed.

Finally, once GLM Management and Key Personnel are sufficiently trained in regard to the standard operating procedures, designated management staff members will be responsible for internally managing this robust training process for any new-hires. This training process will take place at the contemplated GLM Hawaii-based dispensing facility, and trainees will have access to licensed standard operating procedures, training videos, training cut sheets, and other support materials as needed.

Operating a cannabis dispensary requires a full team of professionals in order to operate efficiently and effectively. GLM will have access to the following job descriptions, including but not limited to: Controller, Dispensary Manager, Dispensary Supervisor, Dispensary Technician, Security and Loss Prevention Supervisor, Inventory Control Supervisor, Facility Maintenance Supervisor, Information Technology Supervisor, and Receptionist.



### **2.5.1.2 - SOP Outline**

#### **Section 1: Dispensary Operations**

- Dispensary Organizational Chart Sample
- Introduction
- Staffing
- Location, Pricing, and Advertising
- Communications
- Loss Prevention and Security
- 3<sup>rd</sup> Party Product Management
- POS Overview
- State Inventory Program Overview
- Opening/Closing Procedures
  - Opening Procedures
  - Basic Laws and Responsibilities
  - Weights and Measures
  - Consumer Care and Safety
  - Edibles
  - Stocking
  - Side Work (During Downtime)
  - Tips for a Successful Day
  - Closing Procedures
  - Breaks and Lunches
  - Emergency Procedures
  - Employee Purchase

#### **Section 2: Identifying Flower/Bud Impurities in the Dispensary**

- Overview
  - Powdery Mildew
  - Dry Rot
  - Botrytis
  - Pests
  - Seeds

#### **Section 3: Rules, Regulations, Licensing, Compliance and Taxes**

- Rules, Regulations and Taxes
- Licensing
  - Employee Licensing
  - Dispensary and Cultivation Licensing
  - Vendor Licensing
  - Sales Tax Licensing
  - Use Tax
- Compliance
  - metric™ Description and Overview
  - General Compliance



## Medical Sales

- Ordering and Receiving Medical Inventory
- Proper Identification
- Medical Purchase Limit
- Expired Product and Product Destruction

## Recreational Sales

- Ordering and Receiving Medical Inventory
- Proper Identification
- Recreational Point of Sale
- Recreational Purchase Limit
- Expired Product and Product Destruction

# Appendices

- Appendix 1 - Additional Resources
- Appendix 2 – Dispensary Specific Acronyms
- Appendix 3 - Cannabis Industry Definitions
- Appendix 4 - Suggested Equipment
- Appendix 5 - Sample Operational Expense Sheet
- Appendix 6 - 1 Year Pro Forma Income Statement Sample
- Appendix 7 - Job Descriptions
- Appendix 8 - Standard Operating Procedures Manuals
- Appendix 9 - Dispensary Images
- Appendix 10 - Seed Acquisition – Website Sources
- Appendix 11 – Edibles Education Card Sample
- Appendix 12 – Loyalty Card Sample
- Appendix 13 – Coupon Card Sample
- Appendix 14 – Top 20 MMPC Strains
- Appendix 15 – Employee Handbook
- Appendix 16 – Employee Acknowledgment of Handbook
- Appendix 17 – Employee Orientation Packet
- Appendix 18 – Agreement Not To Engage In Illegal Activity
- Appendix 19 – Attendance Policy
- Appendix 20 – Probationary Period
- Appendix 21 – Criminal History/Background Check Consent Form
- Appendix 22 – Employee Confidentiality and Unfair Competition
- Appendix 23 – Employee Incentive Program
- Appendix 24 – Receipt of Company Property
- Appendix 25 – Employee Evaluation Form
- Appendix 26 – Employee Discount Policy



## **Appendix 2.6 - Detailed Proposed Timeline**

### **PROPOSED TIMELINE: Day One Assumed to be April 15, 2016**

**Day 001** - Award of License, Site already under control, Shell building in process

**Day 007** - Submission deadline for \$75,000 application fee to the DOH (must be in by this date by certified funds or cashier's check State of Hawaii, Department of Health)

**Day 010** – Narcotics Enforcement Division application and approval of destruction protocol (11-850-22) and securing certificate to provide to the DOH within seven (7) days of obtaining the certificate

**Day 015** – Key Staff hiring completed and Staffing Plan updated

**Day 020** – Long lead items ordered (mechanical, electrical, other), shipping deadlines defined

**Day 030** – MEP and permitting submittal to local building officials for approval

**Day 060** – NED Approval Certificate in place and submitted to the DOH

**Day 065** – **11-850-32** (30 days prior to operations start of the cultivation and manufacturing facility) submittal deadline target

**Day 075** – Permits in place, building shell fast start

**Day 080** – Long lead items ordered (production/manufacturing), shipping deadlines defined

**Day 090** – **11-850-71** Product and Product Standards submittal deadline target

**Day 095** – Cultivation training initiation (offsite)

**Day 098** – Department of Health inspections completed and all approvals in place

**Day 099** – Temporary Certificate of Occupancy in place (genetics enclosure in place onsite)

**Day 100** – Genetics initiated (Clone and 'Mother/Seed' genetics start)

**Day 140** – Cultivation training initiation (onsite)

**Day 159** – Final inspections completed, Certificate of Occupancy in place

**Day 160** – Build out complete and ready to start mid veg cultivation cycle

**Day 161** – Final Dispensary locations designated, leases (or purchases) in place

**Day 175** – Full team hiring initiative completed, all paperwork and training schedules in place

**Day 195** – **11-850-33** (60 days prior to operational start, Dispensary) submittal deadline

**Day 200** – Dispensary training initiation (offsite)

**Day 240** – Dispensary training imitation (onsite)



**October 15, 2016 – 11-850-38 1<sup>st</sup> Quarterly Reports Due**

**Day 250 – Tight trim extraction start**

**Day 270, December 26<sup>th</sup>, 2016 – Flower material and extraction products from tight trim in store, 1<sup>st</sup> day of dispensing (projected)**

**January 15, 2017 – 11-850-38 1<sup>st</sup> Quarterly Reports Due**

**February 15, 2017 – 11-850-39 Annual Audit Due 60 days prior to YE (April 15, 2015)**

**April 15, 2017 – First year anniversary from License Award**

## **Appendix 2.7 Photos**

### **Appendix 2.7.1 - Cultivation Center Photos (File Photos Similar)**



Medical Marijuana Plant Management Area







Medical Marijuana Plant Management Corridor



Medical Marijuana Plant Cultivation Access Corridor





Medical Marijuana Vegetative Space



Medical Marijuana Flowering Canopy





Medical Marijuana Reverse Osmosis Water Station



Medical Marijuana Flower Table Detail (Canopy Frame)







Medical Marijuana Flowering Room (Table + Light System)



Typical Vegetative Space (Mid Veg Lower photo, Late Veg Upper photo)





Medical Marijuana Hanging Dry Racks



### **2.7.2 - Manufacturing Photos (File Photos Similar)**







#### Oral Capsules (GLM-CAP)

- Description: 30 MCT Cannabinoid blended Oral Liquid Capsules
- Formulation & Strength: 100mg total per container comprising 10 total doses at 10mg/capsule (SOP Section 14.001)
- Packaging: White HDPE Pharmaceutical Rounds with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-CAP	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
CAP01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
CAP02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
CAP03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
CAP04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.



# [GLM-LOZ] Lozenges



Container is child-resistant.  
**Keep Out of Reach of Children**

**Package Content & Servings:**

Package Contains 60mg Cannabis Extract  
Serving Size: 1 Lozenge (5mg Cannabis Extract)  
Servings Per Container: 12

**Ingredients:** Natural cherry flavor extract,  
Cannabis extract with vegetable stearate  
as a binder, agave and stevia sweetener.  
Sodium-Free, Gluten-Free, Lactose-Free,  
Menthol-Free.

**Nutritional Information Per Lozenge:**

Calories (0g); Fat (0g); Sodium (0g);  
Protein (.046g); Carbohydrates (0g);  
Iron (.086g)



**Greenleaf  
Medicine**

**For medical use only**

**[GLM-LOZ01]  
Lozenges**

**WARNING** Not for resale or transfer to another person  
Product Contains Cannabis Extract THC 10mg per serving.  
This Product is Intended for Hawaii Medical Marijuana  
Patients Only Do not Drive or Operate Machinery.  
May Cause Euphoria, Dizziness or Drowsiness.  
May take up to 1-2 hours for full effect.



Use by 00/00/00 PO Box 11617 Honolulu, HI 96828 License # Not for Resale

## Herbal Lozenges (GLM-LOZ)

- **Description:** Solid consumable medicated tablet that designed to be held in the mouth for slow oral dissolution.
- **Formulation & Strength:** 60 mg total per package comprising 12 total doses at 5 mg/ tablet
- **Packaging:** 10 count blister pack with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-LOZ	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
LOZ01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
LOZ02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
LOZ03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
LOZ04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.





#### Oral Use Syringe (GLM-OS)

- Description: Oral delivery syringe filled with Cannabinoid rich CO2 extracted essential oil
- Formulation & Strength: 100mg active Cannabinoids per 5ml syringe comprising 10 total doses at 10mg per serving
- Packaging: 5 ml Oral Medication Syringe With Tip Cap with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-OS	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
OS01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
OS02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
OS03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
OS04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.







#### Sub-Lingual Oro-Mucosal Tincture (GLM-TINC)

- Description: 1oz Cannabinoid-Veg Glycerin Tincture
- Formulation & Strength: 100mg comprising 10 Serving at 10mg/1ml (SOP Section 13.001)
- Packaging: 1 ounce Droppers with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM- TINC	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TINC01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TINC02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TINC03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TINC04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.





#### Transdermal Ointment (GLM-TDO)

- **Description:** Transdermal Ointment infused with Cannabinoid rich CO2 extracted essential oil
- **Formulation & Strength:** 100 mg active Cannabinoids per 4 ounce container
- **Packaging:** 4 ounce White HDPE Rexam Pharmaceutical Ointment Jars with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-TDO	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TDO01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TDO02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TDO03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TDO04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.



### **2.7.3 - Dispensary Photos (File Photos Similar)**



Medical Marijuana Dispensary (Interior)



Medical Marijuana Retail Display Jar

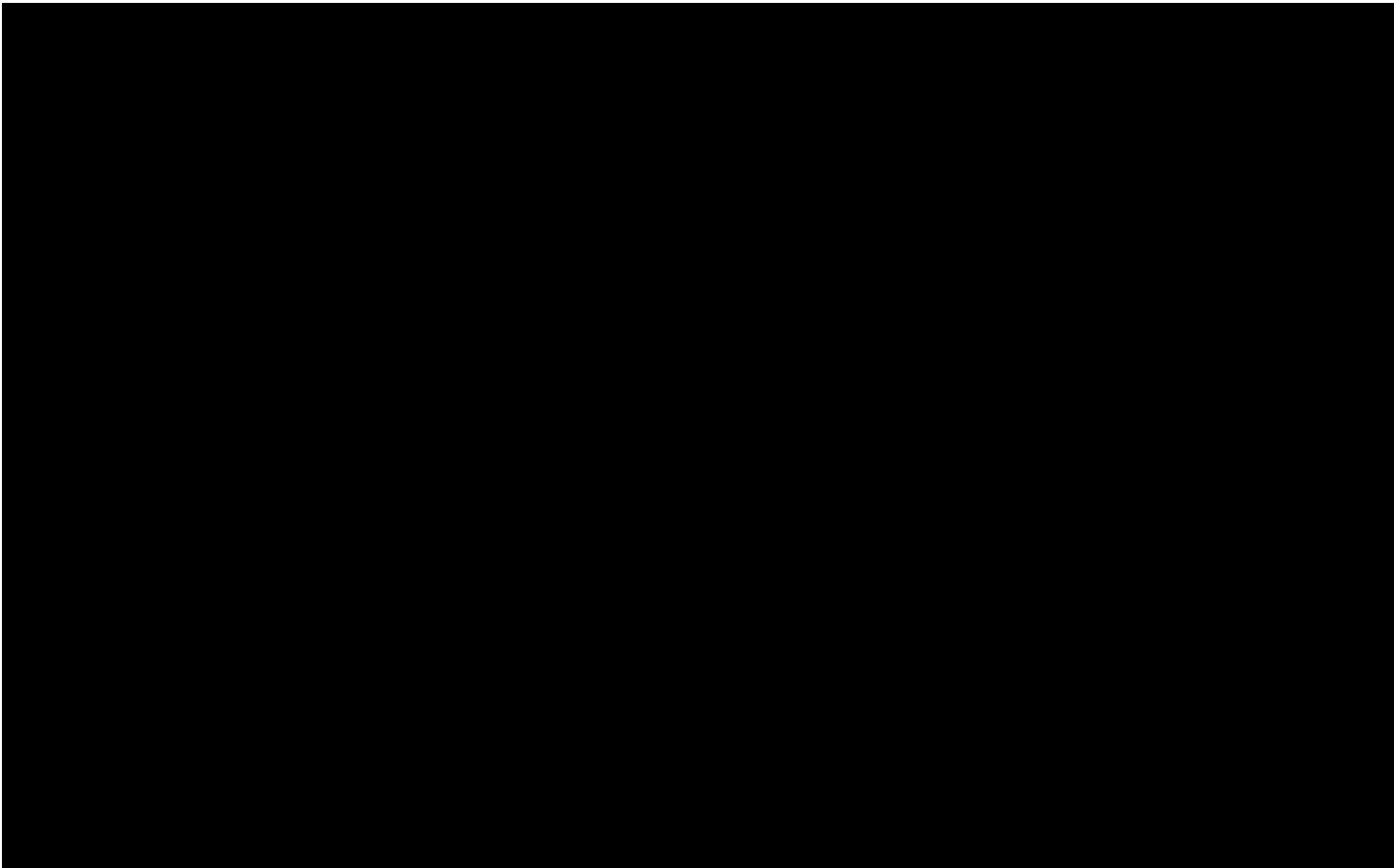






Medical Marijuana Retail Display Cases & Security Guard

## **2.8 – Facilities Location Map**



## 2.9 – Compliance Software



CannaScore is a real-time compliance software, built to analyze any cannabis facility. This thorough analysis covers medical marijuana dispensaries and production facilities to accurately gauge how compliant businesses are in terms of following all of the arduous rules imposed by states, counties, and local government.

Created by industry leaders, The CannaScore auditing system was implemented by those in the business that have been continuously operating as rules were being implemented. The audit process takes approximately 2-3 hours per license, depending on the type of license and the size of the facility. Robust questioning of all aspects of these businesses involves following every line of state regulations to ensure the licensed facility is operating properly and within the law. Once the audit is completed, each license will receive a score based on their compliance. By receiving a score, it allows the owner to fix and rectify existing problems to ensure they can avoid fines, closure, or other business setbacks.

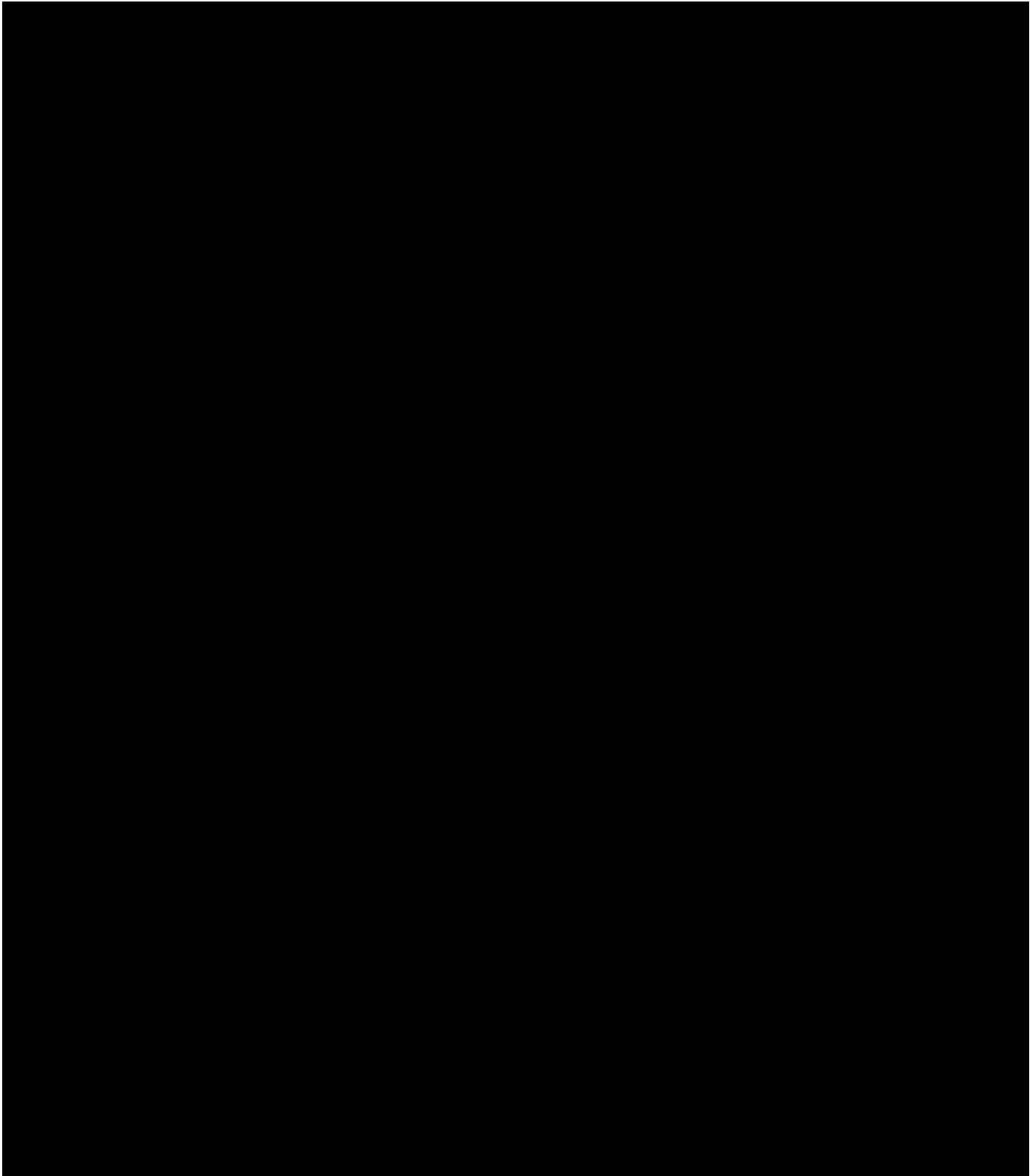
The U.S. Department of Justice, on August 29, 2013, issued a memorandum for all United States Attorneys. This memo, written by James M. Cole, laid out specific priorities that are particularly important to the federal government. In order for cannabis businesses and ancillary businesses that work with cannabis businesses to properly follow the “Cole Memo”, they must be sure that those they are working with are operating compliantly, lest they be at risk for working with a company that is not following the wishes of the Cole Memo. CannaScore gives cannabis owners and those doing business with cannabis companies the peace of mind that the businesses are compliant and aren’t endanger of running afoul of the law.

With the myriad of rules in effect and evolving in the cannabis industry, it’s common for businesses to make mistakes, but without a system like CannaScore to catch those mistakes, problems can grow exponentially. CannaScore is synced with.... Or monitors the complex maze of rules and regulations to provide the peace of mind that a license is compliant. The CannaScore process helps ensure that all rules are being followed every step of the way.

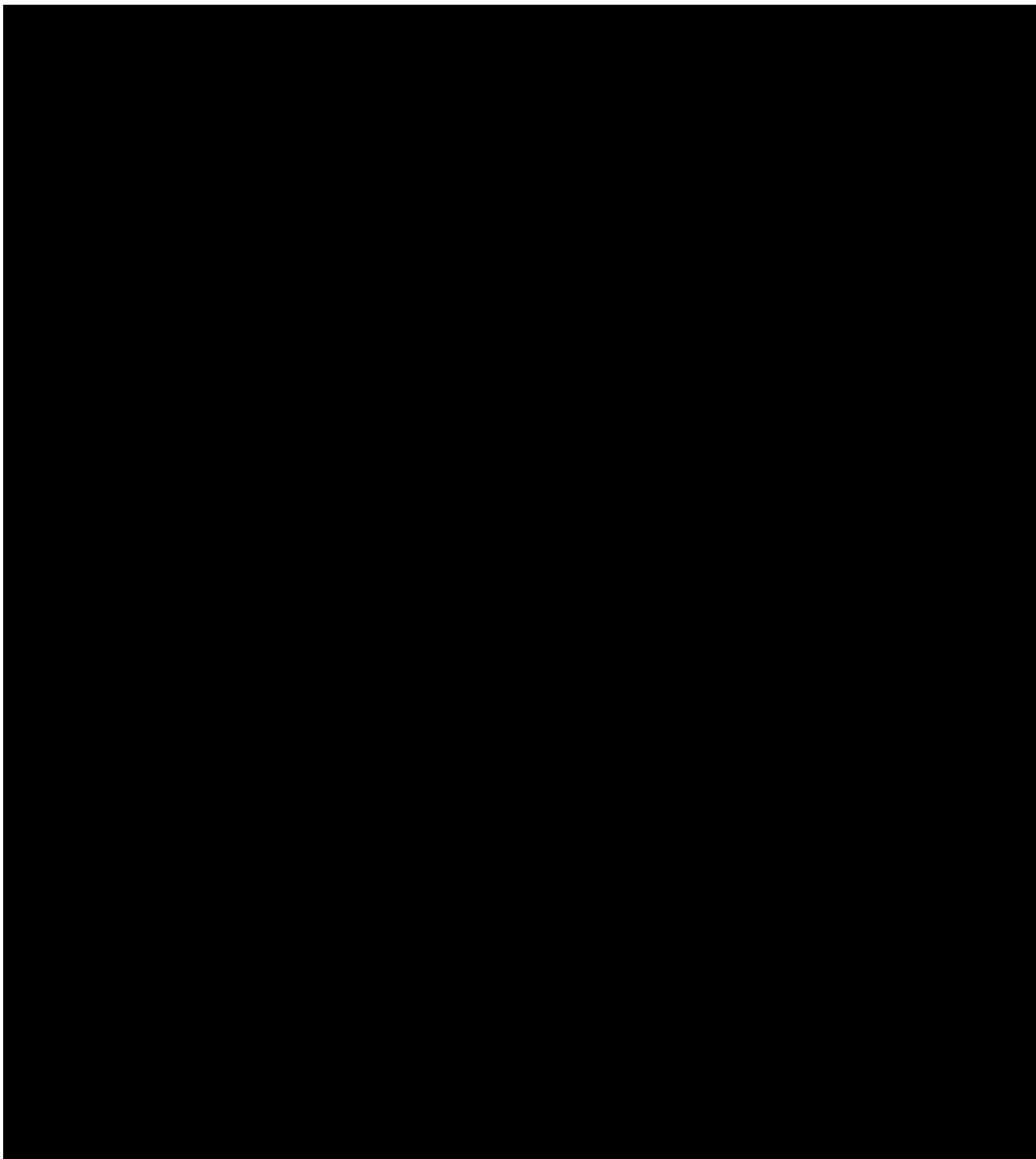
Each audit performed, comes with real time reports, meaning problems discovered can be fixed the same day. Photos of violations and issues are attached to make it quick and apparent what needs to be fixed. Reminders can be set to ensure future checks are done on “problem” areas.



## **2.10 – Kapolei Site Plan**



## Exhibit B



GreenLeaf Medicine, LLC (GLM) has the financial stability and access to financial resources necessary to operate a medical marijuana dispensary on the island of Oahu.

**(A) Legal sources of finances immediately available to begin operating a dispensary:** GreenLeaf Medicine, LLC (GLM) has [REDACTED] in financial resources available to begin operating a vertically integrated medical marijuana business on the island of Oahu.

As demonstrated in *Appendix 3.1 Trust Account* GLM has in its control [REDACTED] held in the [REDACTED]

[REDACTED] This meets the requirements of HRS 329D-3(b)(2)(F).

Additionally, if awarded a medical marijuana dispensary in the City and County of Honolulu, GLM members will deposit a combined additional [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(*Appendix 3.2 Bank Letters*)

**(B) A summary of financial statements in businesses previously or currently owned or operated by the applicant:**

GLM's members Edward Onouye, Nick Teves, Wally Tsuha, Dirk Fukushima, Ruben Carrillo and Dale Fukushima have over 154 years of business experience. These members have grown sizeable, successful businesses with recognizable names like Body Mint, Hawaiian Ice, Commercial Electric, Saturn Electrictronics and Engineering, Inc., Hawaii Stars, 4 Miles, LLC, Sweep Strategies, LLC and Sunny Hawaii. (*Appendix 3.3 Summary of Financial Statements of Businesses*).



**(C) A financial plan for operating a medical marijuana dispensary in Hawaii:**

GLM has [REDACTED] financial resources available to begin operating a vertically integrated medical marijuana business in the City and County of Honolulu. Major expenses will include leasing a manufacturing facility and applying tenant improvements to customize the structure for maximum efficiency. Tenant improvement costs are estimated to be approximately [REDACTED]. Negative cash flow would also include leasing two retail locations for five months prior to 2017. Tenant improvements could [REDACTED]. Additional operating costs will include payroll, facilities expenses, operating expenses, and grow/test/production expenses. These may [REDACTED]. In 2017 GLM estimates a net operating [REDACTED]. The six Members of GLM have the resources to sustain the company until positive revenue is realized. The conservative revenue projections show that in the 25<sup>th</sup> month GLM will be cash flow positive. In 2018 GLM estimates a total positive revenue of [REDACTED]. The return on investment to the six Members will be realized in approximately 48 months. (*Appendix 3.3 Financial Proforma*)

In 2019 GLM forecasts an upward trend in production demand to 1,661 lbs. of dried cured flower which equals the State regulated maximum production capacity of 3000 plants per facility. In 2020 GLM forecasts customer demands continue to rise to 2033lbs of dried cure flower. In order to stay ahead of this forecasted demand, GLM will begin phase two of its business plan in 2018. Phase two includes the construction of a second manufacturing facility in [REDACTED]. The opening of a second 3000 plant facility will provide GLM with production capability to attain full capacity in the forth year of operation.

GLM conservative revenue projections are based on model estimates of 756 card holders in 2017. These cardholders are estimated to purchase a combined total of [REDACTED] in flower and extraction products. With reciprocity in 2018, revenue projections will rise to [REDACTED] from flower and extraction products purchased by 1255 card holders. In 2019 GLM estimates a 33% rise in patients with revenue rising to [REDACTED]. 2020 estimate exceed 2,200 patients with revenue at [REDACTED]. (*Appendix 3.4 Summary of Financial Plan Proforma*).

**(D) Good credit history:** [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

**(E) History of bankruptcy by the applicant or entities owned or operated by the applicant:** [REDACTED]

[REDACTED]  
[REDACTED]



















GreenLeaf Medicine, LLC (GLM) will deploy and enforce consistent security measures throughout our production and dispensary facilities that exceed **the requirements outlined in**

**Hawaii House Administrative Rules (HAR) 11-850-51 and HRS 329D-7**, including:

- A professionally installed electronic video surveillance and recording system
- An electronic alarm system providing law enforcement notification
- Fencing and exterior lighting to monitor and control all access to the facility
- Secure, locked points of entry with commercial-grade fixtures and structural reinforcements
- Personnel access control and recording procedures
- Secure structures (rooms, vault, display cases, containers) to store marijuana products
- Transportation procedures to ensure safe and secure transport of marijuana products
- Professionally trained security officers to ensure safe, secure and compliant operations

**Site and Structure Design**

The production and dispensary facilities will be designed and measures will be deployed to ensure the safe and secure cultivation, storage and dispensing of marijuana and manufactured marijuana products, as well as to ensure safe and secure facilities for all patients, staff and other persons authorized by the Department of Health (DOH) to enter the premises. Backup generators are integrated within each facility in order to provide power for safety lights, security systems and critical operations. In house server and computer system will be housed in the security room.

Please refer to *Appendix 4.1 – Production Center Plan* and *Appendix 4.2 – Dispensary Facility Plan* for detailed schematic and site plan information on the proposed dispensary premises.

**Video Surveillance System** §11-850-51 (a)(1), §329D-7 (6)(A)(i), §329D-7 (6)(B)(ii)

GLM will deploy throughout our production and dispensary facilities a professionally installed electronic video surveillance system that allows for 24-hour continuous video monitoring and recording of all dispensary facilities. System cameras and storage devices will be Internet protocol (IP) compatible and provide accurate time and date stamping on all recorded images, and vital system components and recording devices will be secured to limit access to authorized personnel only and protect from tampering or theft.

Please refer to *Appendix 4.3 – Video Surveillance System* for detailed information on the proposed video surveillance solution.

**Alarm System** §11-850-51 (a)(2), §11-850-51 (b), §329D-7 (6)(A)(iii), §329D-7 (6)(B)(iii)

GLM will deploy throughout our production and dispensary facilities a professionally installed electronic alarm system that detects unauthorized entry, allows notification of law enforcement in an emergency and is connected to a security response organization or law enforcement for automatic response. In the event of a failure or breach of the alarm system, the dispensary facility and/or production center will suspend operations immediately and secure the facility. The DOH will be notified immediately of the security breach, the suspension of operations and when normal operations resume.

Please refer to *Appendix 4.4 – Alarm System* for detailed information on the proposed electronic alarm solution.

**Fencing and Exterior Lighting** §11-850-52 (1), §11-850-53 (5), §329D-7 (6)(A)(ii), §329D-7 (6)(A)(iv), §329D-7 (6)(B)(iv), §329D-7 (6)(B)(v)

Perimeter fencing will be utilized at the production center(s) to ensure the security of marijuana and manufactured marijuana products, to prevent any viewing or access to marijuana products by unauthorized persons, to protect staff and on-site personnel from criminal threats, and to delay criminal threats directed at the facility so law enforcement resources are able to respond.

The production center and dispensary locations will have consistent, reliable and adequate lighting in all areas where marijuana or manufactured marijuana products are stored or sold, as well as exterior lighting illuminating all entries and exits to all for certain identification of all persons and activities.

Please refer to *Appendix 4.5 – Fencing and Exterior Lighting* for detailed information on the proposed fencing and lighting solutions.

**Secure Points of Entry** §11-850-51 (a)(3), §11-850-51 (a)(4), §329D-7 (6)(A)(iv), §329D-7 (6)(B)(v)

Entry to the dispensary facility and production center will be limited to authorized personnel only, and all points of entry (doors, windows, entrances, exits, and any other locations with the potential of allowing entry of unauthorized persons) will be secured with commercial-grade locks, electronic access devices and/or structural reinforcements.

Please refer to *Appendix 4.6 – Secure Points of Entry* for detailed information on the proposed door, window and entry point security solutions.

**Personnel Access Control** §11-850-32 (c), §11-850-33 (c), §11-850-34, §11-850-35, §11-850-51 (a)(3), §11-850-51 (a)(5), §11-850-53 (1), §11-850-53 (3), §329D-7 (6), §329D-15, §329D-16

Establishing and maintaining control over personnel access to the dispensary facility and production center is vital to the safety of staff as well as the integrity and security of marijuana and manufactured marijuana products. Access to the dispensary facility will be limited to those persons listed in §329D-15, while access to the production center will be limited to those persons listed in §329D-16. Unauthorized access to any of the dispensary premises will be reported immediately to the DOH and law enforcement.

Please refer to *Appendix 4.7 – Personnel Access Control* for detailed information on the proposed personnel entry and monitoring security solutions.

**Secure Structures** §11-850-32 (c)(2), §11-850-33 (c)(4), §11-850-33(c)(8), §11-850-52 (2), §11-850-53 (2), §11-850-53 (4), §11-850-85 (a), §329D-7 (6)(A)(iv), §329D-7 (6)(B)(v)

All marijuana and manufactured marijuana products will be secured at all times through a system of electronic tagging and tracking in a secured cultivation area, vaults or locked rooms in a secured storage area, locked display cases or counters in a retail sales area, locked cages or portable storage containers while in transit, and tamper-proof containers for testing verification samples.

Please refer to *Appendix 4.8 – Secure Structures* for detailed information on the proposed secured storage solutions.

**Transportation Procedures** §11-850-36, §329D-7 (7)

Dispensary employees will be trained by established and qualified security and transportation professionals with expertise in transporting legal cannabis products according to local, state and federal regulations. These trained employees will ensure that the dispensary transports marijuana or manufactured marijuana products only between its own facilities (dispensary facility and/or production center) or between a dispensary's facilities and a laboratory for testing. These transportation employees will be responsible for enforcing procedures to ensure the safe, secure and compliant transportation of marijuana and manufactured marijuana products.

Please refer to *Appendix 4.9 – Transportation Procedures* for detailed information on the proposed transportation security solutions.

**Security Officers**

Professional, trained, on-site security personnel are a vital component in ensuring the safety and security of the production and dispensary facilities. The dispensary licensee will contract with an established and qualified security organization *Appendix 4.10 – LOI* with expertise in providing protection, transportation and compliance services to the legal cannabis industry to provide comprehensive training to the dispensary's security staff or third-party security personnel. All training services will be performed with the purpose of ensuring that dispensary premises remain safe and secure and in compliance with all pertinent local, state and federal regulations.

Please refer to *Appendix 4.11 – Security Officers* for detailed information on the proposed security personnel solutions.



































































































































GreenLeaf Medicine, LLC (GLM) has the capacity to meet the needs of qualifying patients. This includes, but is not limited to the following strategies outlined below.

A) Educating patients. GLM will utilize every viable medium in order to meet the educational needs of our patients. Along with a learning center inside the dispensary we will publish our own consumer education brochure for patients outlining the State regulations for use of marijuana and manufactured marijuana products. Included will be guidelines for safe consumption and use as well as storage recommendations which will address child and pet safety issues. We will make this available in printed format at our retail dispensing locations as well as electronically on our website (*Appendix 5.1 - Sample Brochure*). Educational videos will be created and looped in the dispensary and online educating on topics such as, but not limited to the marijuana and manufactured marijuana products, varietal differences and forms of use other than smoking. Other videos will be produced showing our grow, production and dispensary operations. A first-timer packet will be given as an introduction to GLM. Consultation with a GLM Dispensing Agent will be required for all first time visitors. All staff will be trained on State rules and regulations which will be reinforced with patients at the point of sale. A record of staff education in regard to this training will be retained in an employee file and re-visited on a regular basis, and immediately as laws or regulations regarding medical marijuana are updated.

In order to best accommodate personal patient consultations, GLM will provide phone and online scheduling for individual appointments. There will not be a time restriction placed on patient consultation at the retail dispensing location. All patient consultations will be conducted on a one-to-one basis ensuring the privacy of every qualifying patient. Each patient will leave the dispensary with product specification paperwork (*Appendix 2.4.6.3 Product Specifications*) and our consumer education brochure. GLM's employees are not doctors and do not give medical

advice. No suggestions given during consultation by our staff, either verbally or via our educational mediums, is intended to construe a diagnosis or treatment for a medical condition or replace the advice and treatment plan given by patient's physician.

As requested, we will make our facilities and intellectual property available to educate law enforcement, city council, government officials and the public about our industry and to demonstrate best practices within a safe and secure operating environment. It is our intention to work with the community to educate the public about benefits and best practices of consumption.

**(B) Serving qualified patients by producing and maintaining a supply of marijuana that is sufficient to meet their needs** is of paramount interest for GLM. Through the adoption and deployment of the Variable Capacity Continuous Harvest (VCCH) approach, as well as through the implementation of an aseptic, risk-averse production and manufacturing environment, we will be able to consistently produce safe, high-quality marijuana to qualified patients. VCCH ensures that we have a minimum of six harvest cycles per year. Utilizing eight and nine-week harvest strains will allow us to stagger the planting and management of our cultivation and provide us the ability to harvest product on a daily basis in order to provide a fresh supply of product. Our storage and replenishment room will allow us to store product in an environment similar to our dry and cure room. Successful optimal storage temperature of this room will be between 65-70 degrees with a relative humidity of between 55 and 60 percent. The use of opaque and air-tight storage containers will preserve and protect the product and aid in further curing. Access will be limited to specific employees and management, in order to prevent cross-contamination from within the production center.

Utilizing super critical Carbon Dioxide (CO2) extraction technologies provided by Isolate Extraction Systems (IES) GLM will have a safe and clean method for production of high quality

cannabis oil for production of marijuana related products. CO2 extracted Cannabis Oils have a long shelf life enabling GLM to have a uninterrupted supply of medicine. IES machines are made from the highest quality material, pressure rated and built to American Society of Mechanical Engineers (ASME) specifications.

**(C) GLM will provide safe, accessible retail dispensing locations.** We know that medical marijuana patients will seek out such locations. Aside from the physical security systems discussed in response four, day-to-day operations at the retail dispensing location will ensure that staff and security personnel are doing everything within their power to ensure the safety of patients and the surrounding community:

- [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]
- Retail dispensary staff will greet customers at the counter, answer questions and offer personal consultation to each patient. Identification will be double verified and cross referenced with the State computer tracking software system (BioTrackTHC) for purchase limit purposes prior to dispensing products and when the transaction is

completed. Per HAR 11-850-92 customers will exit the store with all marijuana products inside an ASTM-rated, child-resistant, opaque exit bag

- [REDACTED]  
[REDACTED]  
[REDACTED]
  - [REDACTED]  
[REDACTED]  
[REDACTED]
  - [REDACTED]  
[REDACTED]  
[REDACTED]
  - [REDACTED]  
[REDACTED]  
[REDACTED]
  - [REDACTED]  
[REDACTED]

If a qualifying patient would like to receive escort assistance to their vehicle, they may request such service through a member of the retail dispensary staff and will be accommodated as soon as possible by an on-duty security guard. To further facilitate the mobility of qualifying patients and patrons with limiting or debilitating medical conditions, the GLM retail dispensary facility will be ADA-compliant inclusive of walkway ramps and bathrooms. Additionally, GLM

will seek to establish and maintain strong ties and open communication lines with local law enforcement to ensure police and/or emergency medical assistance is available when needed.

**(D) GLM will measure and constantly seek to improve customer satisfaction.** Patient education, security and customer satisfaction are the core focus of the retail dispensing facility. Being able to measure and improve customer satisfaction is critical for both our long-term business growth as well as ensuring that consumers are provided with the most pleasant, safest, and most consistent experience possible. We plan to measure and improve customer satisfaction in a variety of ways. Our customer experience strategy will be comprised of the following: a secret shopping program, including on-site secret shops as well as recorded phone call secret shops; customer satisfaction surveys will include point-of-sale surveys, mobile feedback surveys as well as an online feedback platform; an employee satisfaction and engagement survey; customer intercept and exit interviews; and the creation of an anecdotal patient feedback repository. (*Appendix 5.2 - Customer Satisfaction Program Details*)

We will use Customer Experience (CX) metrics to benchmark, measure and improve upon the customer experience through all customer touchpoints and interactions. This will help us to identify any gaps in training, improve patient education, ensure we are responsible vendors of medical marijuana and provide patients with the information they need to make informed health decisions. Beyond Facebook, we will closely monitor online review sites such as Yelp, Angie's List, Foursquare, Goodsnitch, Manta, and MerchantCircle. We will also set up Google Alerts to make sure we are promptly responding to any online customer feedback we might receive. We commit to continually optimizing and prioritizing our company's customer experience strategy for constantly improving our customers' experience, and patient and community safety.

## Appendix 5

### 5.1 - Sample Brochure



Please Visit these sites as additional resources for your education:

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

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

<http://www.drugabuse.gov/publications/drugfacts/marijuana-medicine>

#### GreenLeaf Medicine

##### About Us

GreenLeaf Medicine is committed to providing our patients with Medical Marijuana education and awareness.

##### Contact Us

Phone: [Telephone]

Email: [Email address]

Web: [Web address]



Cannabis Pharmacy: The Practical Guide to Medical Marijuana  
Book by Michael Backes



GREENLEAF MEDICINE  
[Address]  
[City, ST ZIP Code]

- Cancer
- Glaucoma
- HIV/AIDS
- Cachexia (wasting syndrome)
- Pain
- Nausea
- Seizures
- Muscle spasms
- Multiple sclerosis

Patient information brochure

Think a document that looks this good has to be difficult to format?

Think again! We've created styles that let you match the formatting in this brochure with just a click. On the Home tab of the ribbon, check out the Styles gallery.

*"Don't be shy! Show them how fabulous you are! This is a great spot for a glowing testimonial."*

#### Get the exact results you want

To easily customize the look of this brochure, on the Design tab of the ribbon, check out the Themes, Colors, and Fonts galleries.

#### Have company-branded colors or fonts?

No problem! The Themes, Colors, and Fonts galleries give you the option to add your own.

### What do you include in a brochure?

#### Here are a couple of ideas...

This spot would be perfect for a mission statement. You might use the right side of the page to summarize how you stand out from the crowd and use the center for a brief success story.

(And be sure to pick photos that show off what your company does best. Pictures should always dress to impress.)

[Type a caption for your photo]

Don't forget to include some specifics about what you offer, and how you differ from the competition.

#### Our Products and Services

You could include a bulleted list of products, services, or major benefits of working with your company. Or just summarize your finer points in a few concise paragraphs.

We know you could go on for hours about how great your business is. (And we don't blame you—you're amazing!) Just remember that this is marketing—if you want to grab their attention, keep it brief, friendly, and readable.



## **5.2 - Customer Satisfaction Program Details**

### **1. Mystery Shopping:**

- In-store Secret Shops: GLM will hire a mystery shopping company to send independent, unbiased, 3<sup>rd</sup> party evaluators in to our location(s) to evaluate the entire customer experience. We will use these mystery shops to evaluate our frontline personnel's customer interaction and consumer education skills as well as evaluate our employee's compliance with state regulations such as age verification and maximum sales amounts. It is our duty to safeguard the wellbeing of our customers and emphasize this responsibility within our staff.
- Recorded Phone Call Secret Shops: As Hawaii is a one-party consent state, we propose conducting recorded phone call shops so that we may evaluate and improve upon the customer experience that patients are receiving over the phone. We intend to use these recorded phone calls as training material for onboarding new employees on the proper way to interact with patients on the phone. These mystery shops will be aggregated over time through an online platform so that we may track and trend customer experience data.

**2. Customer Satisfaction Surveys:** GLM will implement a customer satisfaction survey program, including the following:

- Point of Sale surveys: a unique URL is generated and printed on the bottom of each receipt allowing the patient to fill out a customer satisfaction survey online.
- Mobile feedback survey: we will get patient permission to send them an SMS survey to provide feedback about their experience with our store. In addition, a



custom SMS code can be created for consumers to opt in, in order to receive updates on dispensary happenings such as educational seminars.

- Online feedback platform: we will build a portal on our website that will allow patients and consumers to give us direct feedback through our website.

**3. Employee Satisfaction / Engagement Surveys:** GLM employees are one of the most critical components to our customer satisfaction. Keeping our employees happy, educated and involved will be a key element of our customer satisfaction strategy. We will conduct employee satisfaction surveys regularly, so employees also have a say in the way that patient care is conducted.

**4. Customer Intercept / Exit Interviews:** GLM will conduct occasional Customer Intercept / Exit Interviews at our dispensaries, during or immediately after our customers' shopping experiences. It's here that customers can most accurately recall details of their experience with us and express their reasons for purchasing or not purchasing and what we can improve.

**5. Anecdotal Repository:** As we begin interacting with patients and gathering patient feedback we propose to track patient systems and the medical efficacy of the products we are providing and building an anecdotal repository which can be housed within our POS system provider.





Pursuant to Chapter 11-850, Sections 329D-7, 329D-12, and 846-2.7, HRS, GreenLeaf Medicine, LLC (GLM) will **comply with all criminal background check requirements set forth by the State of Hawaii and the Department of Health.** GLM will implement strict adherence to background checks for all required individuals and parties with current or future association to ensure our organization is a model for the eight medical marijuana license holders in the State of Hawaii. With regard to the initial dispensary license application, GLM has ensured that the following parties have met their criminal background check requirements: individual applicant, officers, directors, shareholders with at least twenty-five percent ownership interest or more, members, and managers of GLM.

Upon award of a license from the State of Hawaii, GLM will ensure that the following parties continually meet their criminal background check requirements: each employee of the medical marijuana dispensary, each production center and retail dispensing location employee, as applicable, and all officers, directors, shareholders with at least twenty-five percent ownership interest or more in a production center or retail dispensing location. A GLM designated compliance officer will do regular review of all the above listed individuals to ensure continuous compliance. Non-compliant individuals will be disciplined in accordance with the employee handbook up to and/or including dismissal.

Additionally, no person shall intentionally or knowingly enter or remain upon the premises of our medical marijuana retail dispensing or production center location pursuant to section 329D-15(a) (4) or 329D-16 (3) without having previously met their criminal background check requirements. For approved visitors, GLM shall keep an accurate record of each person's first and last name, date and times upon entering and exiting our dispensary facility, their purpose for entering, and the identity of our escort. This will be kept on file and made available to the DOH or

law enforcement as requested or for the purpose of inspection. GLM understands that the DOH will need to approve a list of visitors and that this list shall be effective for one year from the date of approval. GLM also understands that unauthorized access to our production center and retail dispensing locations is a class C felony.

GLM will develop a detailed SOP to ensure strict compliance with Criminal Background Check Requirements and Facility Access Authorization as mandated by the Hawaii State Regulations. The provisions of our SOP will include, but not be limited to the following:

**Responsibility:** The Compliance Department and Human Resources Department will share the overall responsibility to ensure GLM has documented its compliance with background check and restricted access regulations and that this documentation is at all times available to the DOH for inspection. Employee Files, Approved Contractor Files, and the Authorized Access List will be audited periodically by the Compliance Department to ensure current and complete documentation is on file. Any discrepancies will be immediately resolved and will be reported to senior management.

**Policy:**

Principals: All principals will comply with State background check requirements and documentation will be retained by the Compliance Department. Principals may be defined as: individual applicant, officers, directors, members, managers and principle shareholders with at least twenty-five percent ownership interest.

Employees: Employee applications and job descriptions will include the provision that individuals must successfully pass a criminal background check as required by the State as a prerequisite and condition for employment. Human resource employee files will contain the documentation of criminal background check and compliance.

*Independent Contractors and Other Approved Vendors:*

1. GLM will identify and compile a list of all individuals who will require access to the licensed facility. All persons on this list will provide GLM with any and all documentation as required by the state with regard to background check compliance prior to entry.
2. The persons on this list must be approved by the state. The state approval information and other materials documenting criminal background checks will be retained by the compliance department.
3. All individuals who have successfully met all requirements will be included on a GLM certified list of authorized visitors (on GLM letterhead). This certified list will be retained at the entrance to the licensed facility.
4. There is one single, secured public entrance to the facility. All visitors will be required to enter through this door and must obtain a visitor badge prior to entering the facility. Information with regard to their name, the purpose of their visit, the time they arrived and the time they left will be entered into a log book prior to issuing a visitor badge. At this time the visitor's picture ID will be scanned and they will be confirmed to be on the department's approved list. This log-book will be maintained at the entrance to the facility. GLM has strict security measures and no visitors shall enter the premises through any other entrance and must be accompanied by an agent of GLM during their visit.
5. If at any time an individual is observed in the facility who is not an employee and who does not have a "visitor badge" all GLM personnel are aware that this must be reported to a supervisor and that person must be immediately reported to the security person on duty.

In order to ensure the ability for GreenLeaf Medicine, LLC (GLM) to be **compliant with the requirements of the State of Hawaii's Admin Rules 11-850-20 and chapters 329 and 329D, HRS, for inventory tracking, security, and sales limits for qualifying patients,** as well as the State selection of BioTrackTHC as the seed-to-sale inventory tracking software system for its medical marijuana initiative, GreenLeaf Medicine (GLM) has engaged BioTrackTHC for their preliminary application support. (*Appendix 7.3 BiotrackTHC Support Document*). BioTrackTHC has sent GLM their support document to assist us in becoming compliant with the requirements set forth in Chapter 11-850 and Section 329 and 329D, HRS for inventory tracking, security, and dispensing limits for qualifying patients. BioTrackTHC's commercial software will provide seamless data exchange integration between GLM and Hawaii's medical marijuana tracking system. There will be integration via the application program interface (API) between GLM, BioTrackTHC enterprise system and the State interface utilized by the Hawaii Department of Health (DOH). This will allow data to be sent in real time, not only from GLM to the DOH, but it will allow GLM to retrieve transferred data by the DOH.

The BioTrackTHC system is comprised of several components; all of which are designed to seamlessly integrate with one another. The BioTrackTHC producer, processor and retail tracking components are completely interoperable with one another. Whether the tracking requirements include plants, trimmings, waste, conversion, dispensing or anything in between; the BioTrackTHC system, in concert with its unique inventory typing system, can currently track all DOH requirements.

The BioTrackTHC System issues a globally unique, non-repeating 16-digit identification number to each plant. At every stage in the product lifecycle where something needs to be differentiated, the System issues a new "child" identifier (e.g., separating flower from stems

during the harvest process, the creation of new clones or seeds from a mother plant). The System issues the identifier to prevent accidental or intentional identifier duplication by the user, and the 16-digit identifier ensure scalability and longevity—the System could generate 1,000,000 identification numbers per second for over 317 years.

Every identifier is associated with a quantity that is measured in either discrete units or a weight depending on the item's classification; for example, plants, seeds, and manufactured marijuana products are measured in discrete units, whereas, bulk flower and stems are measured in continuous weight. This creates an unbroken audit chain. Select any identification number and both the State and the registered organization can backwards-trace the medical cannabis product's lineage all the way back to the plant from which it came, and also forwards-trace every gram to where it is still in inventory, where it has been dispensed, to whom it was dispensed, and where it was destroyed.

As an example, if 100 grams were harvested from plant 98765: in this case, 2 grams were consumed by the testing laboratory, 8 grams were dispensed to patient “Smith”, 15 grams were dispensed to patient “Jones”, 55 grams are still in inventory, and 20 grams have been destroyed.

Laboratory testing is built-in and tied directly into the inventory typing system. This allows for very complex or very simple rules on what needs to be tested, what the testing requirements are, the pass/fail limits, etc. This testing paradigm provides a model for ensuring that only properly tested product may be sold to a patient. The system's integrated features will be setup to prevent the sale or transfer of product that has not passed state mandated laboratory tests, if necessary. In order to maintain a record of clear and unbroken custody at all stages, this will include full tracking during the transport of inventory between dispensary facilities

(production center, retail dispensary facility) and between a dispensary facility and a State-certified laboratory.

GLM will use the Software to generate shipping manifests that will be sent with each outgoing shipment from the production facility to the dispensary. The state will be able to see what product or products are in route between facilities, with timestamps and dates on when the product was checked out of production, is in route, and when it arrives to the retail dispensary. We will use this BioTrackTHC transportation manifest to monitor and reconcile all products that arrive to the retail dispensary. We will inspect the physical shipment and compare to the transportation manifest for accuracy. After checking the product in and determining accuracy, we will utilize BioTrackTHC on the retail dispensary side of the business to enter the product into inventory.

GLM will track the plant through each phase of its lifecycle beginning with a clone, through early, mid and late vegetative phases, flower, trim, dry, cure and storage. (*Appendix 7.2*). We will have the ability to readily track plants within the BioTrackTHC system should we at any time need to physically locate a plant within our production center. An example of this would be a plant affliction which escapes the attention of the cultivation team but is detected by a trimmer; utilizing BioTrackTHC would allow the team to track the precise flowering room location. The cultivation team can immediately go to that room and check all other plants, and treat them for afflictions if necessary, in order to prevent future outbreaks or allowing other plants to pass through with pathogenic afflictions. We will be able to easily report to the state of Hawaii at any time the number of plants we have in our facility, where these plants reside in the lifecycle process, and in which room a plant or plants reside.

At the point of sale within our retail dispensary, GLM will be able to assist and consult a patient and their needs. The POS will have BioTrackTHC loaded on the terminal. The POS is equipped with a monitor, a till or register, a label maker, a scanner, a receipt printer and a biometric thumb scanner (See Appendix 7.1 - BioTrackTHC Operational Photos). The retail dispensary staff member will first scan their thumb into the biometric reader to alert BioTrackTHC which employee is signed onto the register. This information will be recorded with date and time stamp and will be viewable on the related report run through BioTrackTHC. GLM will be able to pre-set certain security rights and privileges to staff members depending on their job status. For example, a manager will have the security clearance required to take cash pulls from the register should too much cash reside in the till. Once the employee has serviced the customer and completed the transaction, the patient's name will be automatically removed from the queue.

Utilizing the BioTrackTHC system will also allow us to keep our focus on patient safety. With our ability to electronically track all sales of our marijuana and manufactured marijuana products to qualified patients and their primary caregivers, we have the ability to ensure that no sales are authorized in excess of the legal limits which have been set forth in section 329D-7. Using this system will ensure that patients would not have the ability to purchase products in excess of the legal limits and that those limits cannot be overridden manually. Within "Sales Limits" a BioTrackTHC user can regulate the permissible quantities allotted to a patient or caregiver. The system stores patient purchases and cross-references with any DOH defined limits. As the system will be recording every transaction, this data can be parsed, filtered and reported against at any time. The system can also issue stop purchase alerts if a patient attempts to exceed said defined limits and disallow the completion of such a sale. In the event that a

patient has exceeded their purchasing limit; the retail dispensing location will be notified within the Tracking System that the patient has exceeded their sales limit; in response, the System will issue a stop purchase alert. The System does not allow for a retail dispensing location to transact with a patient that has exceeded their pre-defined sales limit.

While using the BioTrackTHC system we will also be prepared to deal with a breach or failure of the tracking system. We will have written into our protocols that should such a breach or failure occur within the system; we will suspend all of our operations until the system is fully operable again. If this should ever occur, we would notify DOH immediately upon the breach or failure, and again when it resumes operations. In the event of a loss of internet access, BioTrackTHC has the ability to operate in Offline mode. While operating in Offline mode a facility may continue to process sales with an on-site server, even if the internet connectivity goes down. When service is restored, all changes made in Offline mode will be updated and synced within the system (*Appendix 7.1 – BioTrackTHC Inventory POS Hardware and Tracking Functionality*).



## Appendix 7

### 7.1 – BioTrackTHC Inventory POS Hardware and Tracking Functionality (File Photos Similar)

#### 1) BioTrackTHC Point-of-Sale Hardware:



Complete Point-of-Sale Terminal Setup



Futronic Thumb Scanner™, courtesy of Futronic Technology Company Limited



Laptop as part of the POS, courtesy of Hewlett-Packard™



Weigh Scale, Courtesy of A&D Company Limited





VeriFone™ Credit Card Reader and PIN pad, Courtesy of VeriFone Holding Inc.



TPL 2824 Plus™ Barcode Label Printer, Courtesy of Accurate Systems Labeling





Thermal Receipt Printer, Courtesy of AsiaScan™



## Honeywell Voyager 1200G Barcode Scanner

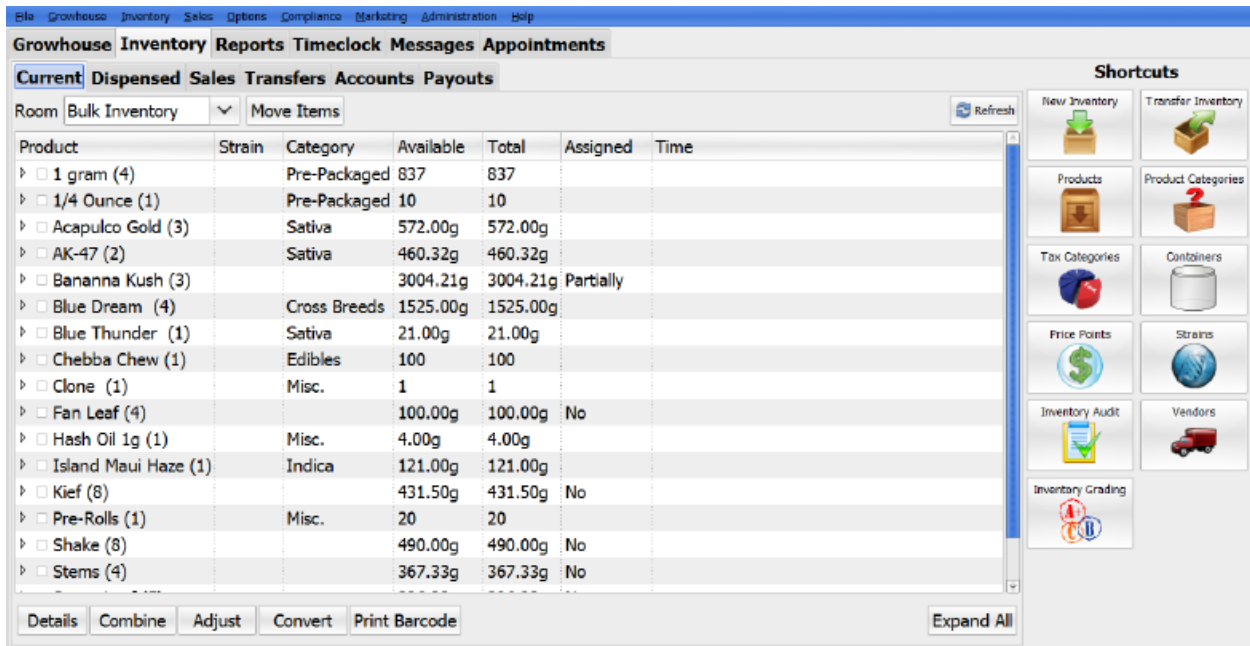


## Cash Drawer Series 100



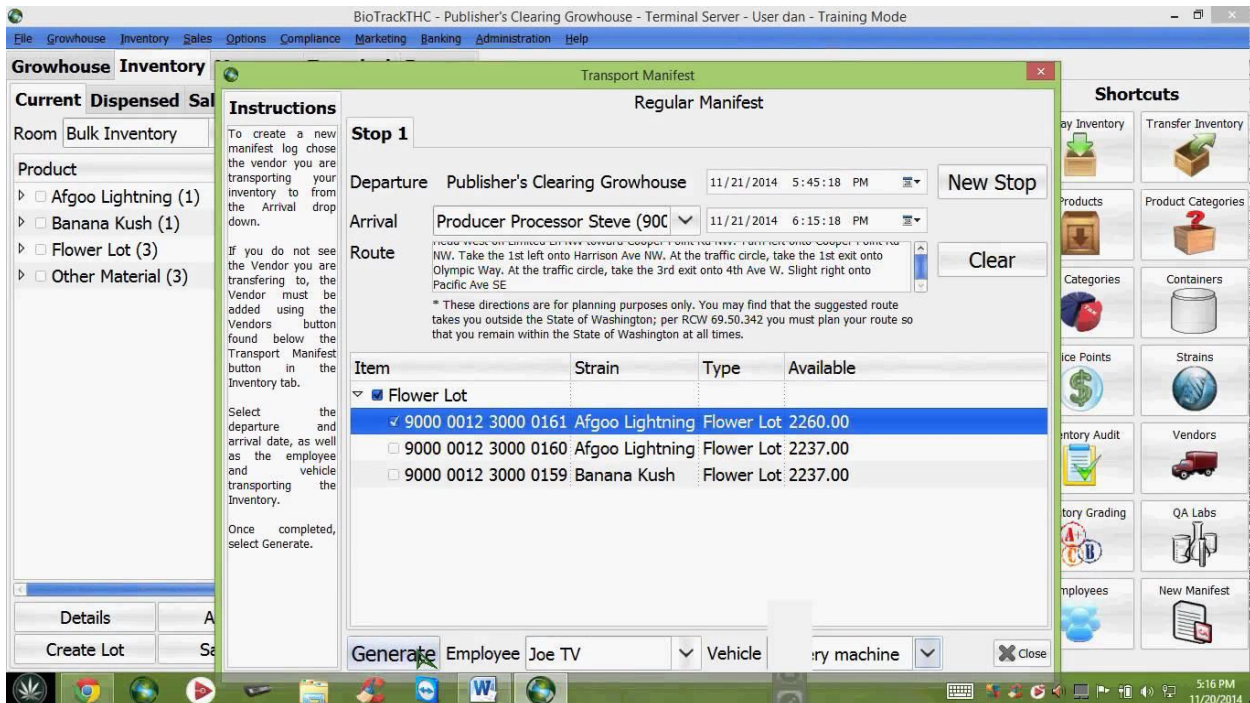
## 2) BioTrackTHC Production Inventory Tracking and Medical Dispensary POS Tracking Screenshots:

### Production Inventory Tracking Functionality:



Product	Strain	Category	Available	Total	Assigned	Time
1 gram (4)		Pre-Packaged	837	837		
1/4 Ounce (1)		Pre-Packaged	10	10		
Acapulco Gold (3)		Sativa	572.00g	572.00g		
AK-47 (2)		Sativa	460.32g	460.32g		
Bananna Kush (3)			3004.21g	3004.21g	Partially	
Blue Dream (4)		Cross Breeds	1525.00g	1525.00g		
Blue Thunder (1)		Sativa	21.00g	21.00g		
Chebba Chew (1)		Edibles	100	100		
Clone (1)		Misc.	1	1		
Fan Leaf (4)			100.00g	100.00g	No	
Hash Oil 1g (1)		Misc.	4.00g	4.00g		
Island Maui Haze (1)		Indica	121.00g	121.00g		
Kief (8)			431.50g	431.50g	No	
Pre-Rolls (1)		Misc.	20	20		
Shake (8)			490.00g	490.00g	No	
Stems (4)			367.33g	367.33g	No	

Current Inventory On Hand Report Courtesy of BioTrackTHC



**Instructions**

To create a new manifest log choose the vendor you are transporting your inventory to from the Arrival drop down.

If you do not see the Vendor you are transferring to, the Vendor must be added using the Vendors button found below the Transport Manifest button in the Inventory tab.

Select the departure and arrival date, as well as the employee and vehicle transporting the inventory.

Once completed, select Generate.

**Regular Manifest**

**Stop 1**

Departure Publisher's Clearing Growhouse 11/21/2014 5:45:18 PM

Arrival Producer Processor Steve (90C 11/21/2014 6:15:18 PM

Route Pacific Ave SE

\* These directions are for planning purposes only. You may find that the suggested route takes you outside the State of Washington; per RCW 69.50.342 you must plan your route so that you remain within the State of Washington at all times.

Item	Strain	Type	Available
9000 0012 3000 0161 Afgoo Lightning	Flower Lot	2260.00	
9000 0012 3000 0160 Afgoo Lightning	Flower Lot	2237.00	
9000 0012 3000 0159 Bananna Kush	Flower Lot	2237.00	

Generate Employee Joe TV Vehicle Dry machine

Shipping Manifest Tracking Report Courtesy of BioTrackTHC





File Growhouse Inventory Sales Options Compliance Marketing Administration Help

**Growhouse Reports Inventory Timeclock Messages Appointments**

Running Transaction and General Reports

Select the report you want to view. You can use the controls in the purple section to specify different parameter values for a more specific report. Click on the "View Report" button when ready.

Select a report: Inventory Forensics Report

View Report Export Print

Start: 04/04/2012 12:00:00 AM  
End: 04/04/2013 11:59:59 PM  
Location:   
Strain:   
Product:   
Category:   
Inventory ID:

### Inventory Forensics Report

Name	Inventory ID	Location	Previous Quantity	New Quantity	Difference
Bananna Kush	0455 0442 6306 9093	Green Thumb Growers	12.00	12.00	0.00
	0496 1442 7587 0817	Green Thumb Growers	1632.21	1632.21	0.00
Jack Flash	0553 9738 1334 2035	Green Thumb Growers	21.00	21.00	0.00
Blue Dream	0603 3174 9404 8938	Green Thumb Growers	451.00	0.00	-451.00
		Green Thumb Growers	451.00	451.00	0.00
AK-47	0619 4097 1395 0501	Sunny side Disp	817.00	17.00	-800.00
		Sunny side Disp	0.00	817.00	817.00
		Green Thumb Growers	817.00	0.00	-817.00
		Green Thumb Growers	817.00	817.00	0.00
Blue Dream	0706 3568 7277 2109	Green Thumb Growers	323.00	0.00	-323.00

Inventory Forensics Report Courtesy of BioTrackTHC

Convert Plant To Inventory

Instructions: Harvesting your plant is potentially a multi-step process. If you have any Pre-Trim, please weigh that now. If you are weighing it in a container, please also select the Container. If you do NOT trim before the drying process, please ensure there is nothing on the scale and simply click Next.

48.21 g

Always zero the scale before use

Gram Mode Ounce Mode Manual Mode Zero Scale

Strain Acapulco Gold

Stems 89.00 g

Sugar Leaf 65.00 g

Trim 41.22 g

Bud 48.21 g

Container None

Container Weight

Batch Later Batch Now Discard

Grade A A+ B

# Barcode 1 8554 7072 3928 2 6013 0075 6736

Capturing Trim Wet Weights Tracking Screenshot Courtesy of BioTrackTHC



**GreenLeaf Medicine Reports Inventory Timeclock Messages Appointments**

**Running Transaction and General Reports**

Select the report you want to view. You can use the controls in the purple section to specify different parameter values for a more specific report.

Click on the "View Report" button when ready.

Select a report:  
☒ Yields

This report will allow you to see the plant yields over a given time period.

**View Report** **Export** **Print**

Date Type: Harvest Date

Start: 04/04/2012 12:00:00 AM  
 Please choose the start date and time

End: 04/04/2013 11:59:59 PM  
 Please choose the end date and time

Strain	Wet Weight	Bud Weight	% Loss	Avg % Loss	Trim	Stems	Sugar Leaf	Shake
Acapulco Gold	166.67	140.33	15.80	40.01	84.33	84.33	84.33	0.00
Acapulco Gold	100.00	82.00	18.00	40.01	46.60	46.60	0.00	0.00
Acapulco Gold	100.00	82.00	18.00	40.01	46.60	46.60	0.00	0.00
Acapulco Gold	798.22	321.33	59.74	40.01	85.00	141.22	0.00	11.00
Acapulco Gold	118.50	171.50	0.00	40.01	49.50	49.50	46.00	49.50
Acapulco Gold	118.50	171.50	0.00	40.01	49.50	49.50	46.00	49.50
Acapulco Gold	227.00	70.50	68.94	40.01	66.50	5.00	5.00	5.00
Acapulco Gold	316.00	118.00	62.66	40.01	0.50	0.50	0.00	0.50
Acapulco Gold	316.00	118.00	62.66	40.01	0.50	0.50	0.00	0.50
Acapulco Gold	166.67	140.33	15.80	40.01	84.33	84.33	84.33	0.00
Acapulco Gold	100.00	82.00	18.00	40.01	46.60	46.60	0.00	0.00
Acapulco Gold	166.67	140.33	15.80	40.01	84.33	84.33	84.33	0.00
Acapulco Gold	227.00	70.50	68.94	40.01	66.50	5.00	5.00	5.00
Acapulco Gold	100.00	82.00	18.00	40.01	46.60	46.60	0.00	0.00
Acapulco Gold	100.00	82.00	18.00	40.01	46.60	46.60	0.00	0.00
AK-47	249.00	50.86	79.57	41.03	4.40	51.20	25.00	4.60

Tracking Plant Yields Tracking Screenshot Courtesy of BioTrackTHC

Medical Dispensary Inventory Tracking Functionality:

**Customers**

New Customer

Search [ ] Search

**Basic Info** **More Info** **Marketing**

Last: Stevens First: Anthony  
 Middle: Michael Phone: 954-999-7914  
 Birthday: 02 / 01 / 1970 Email: abc@aol.com  
 Cell: 954-999-7914 Carrier: ATT  
 MMJ Card: M123465 Exp: 2 / 2 / 2014  
 DL #: S458967047 Exp: 09 / / 2016  
 Referral: website Member: Non-Member  
 Discount: Since: 1 / 25 / 2013

Update Clear Check-in

**Purchase History** **Notes**

Item	Quantity
04/17/2013	
Custom T-shirt	1


**Documents**

Open Scan Scan ADF Print Export Upload Clear

Files

New

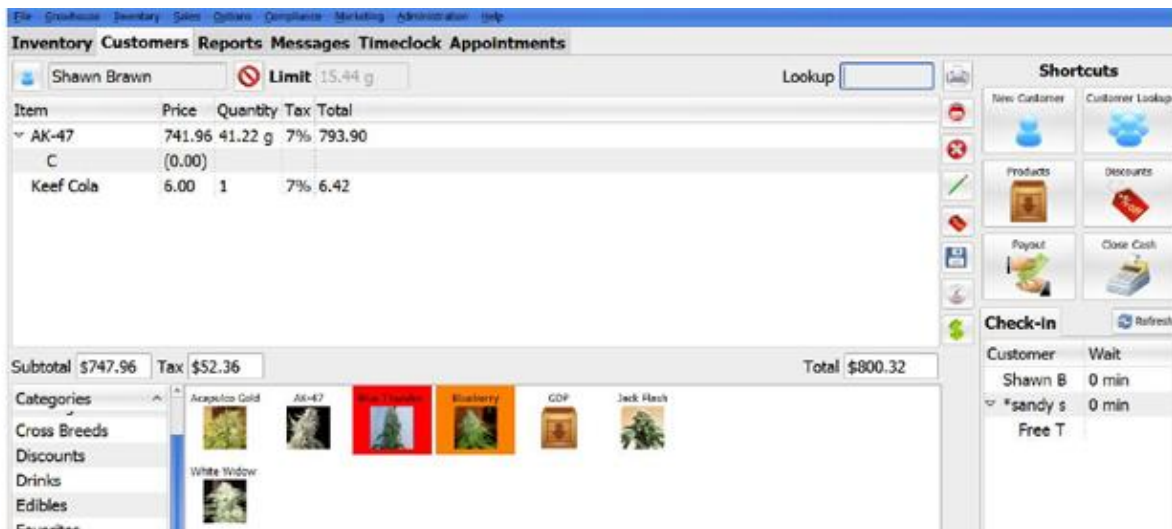
- 03/19/2013 Document
- 11/15/2012 Document

 **BioTrackTHC**

Patient Information Screenshot Courtesy of BioTrackTHC







POS Customer Transaction Screen Courtesy of BioTrackTHC

Sales Report								
Location	Name	Price	Tax	Totalprice	Terminal	Userid	Date	
en Thumb Growers	Anthony Stevens	19.50	1.35	20.85	1	Initial User	11/09/	
en Thumb Growers	Adam Smith	195.00	13.47	208.47	1	Initial User	11/09/	
en Thumb Growers	Anthony Stevens	18.45	1.27	19.72	1	Initial User	11/12/	
en Thumb Growers	David Smith	228.60	15.79	244.39	1	Initial User	11/13/	
en Thumb Growers	David Smith	102.00	7.04	109.04	1	Initial User	11/14/	
en Thumb Growers	Anthony Stevens	52.87	3.65	56.52	1	Initial User	11/14/	
en Thumb Growers	frank miles	160.80	11.10	171.90	1	Initial User	11/14/	
en Thumb Growers	Adam Smith	26.00	1.79	27.79	1	Initial User	11/15/	
en Thumb Growers	Anthony Stevens	23.40	1.61	25.01	1	Initial User	11/15/	
en Thumb Growers	frank miles	97.00	6.70	103.70	1	Initial User	11/15/	
ny side Disp	sandy smith	47.34	3.26	50.60	1	Anthony	11/15/	
ny side Disp	Adam Smith	143.60	9.91	153.51	1	Anthony	12/06/	

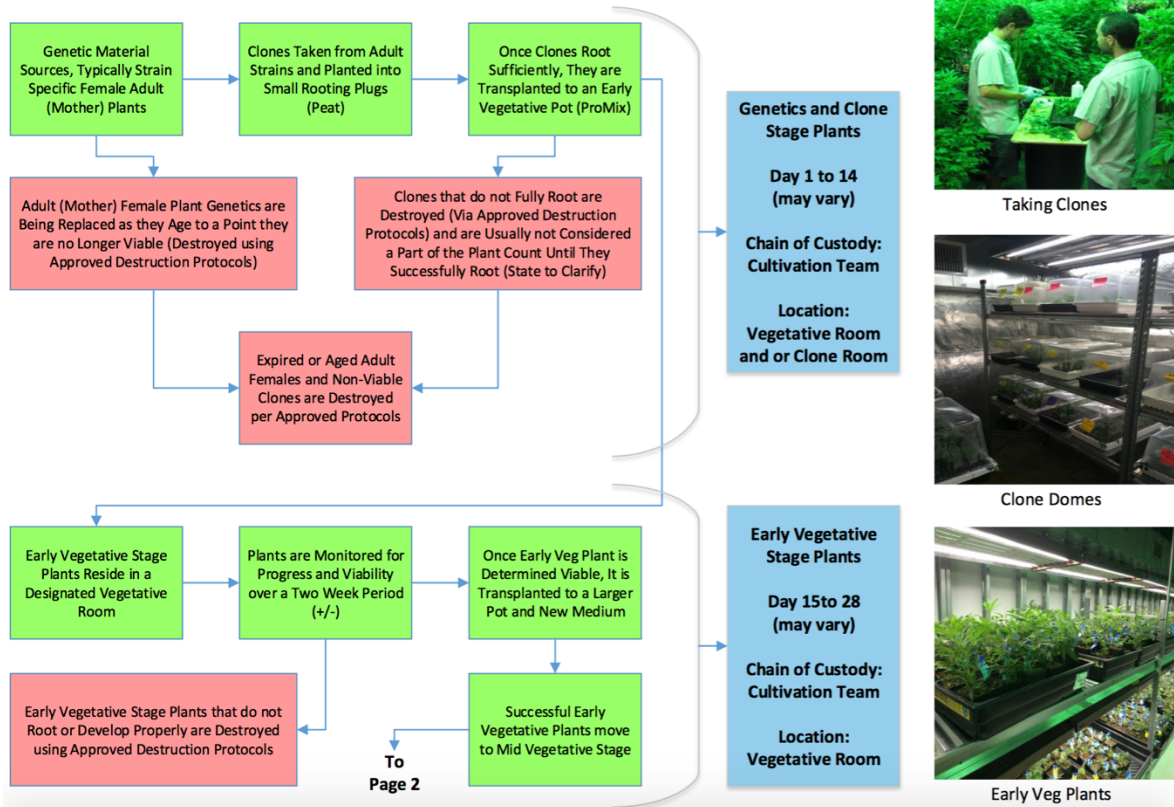
Dispensary Sales Report Tracking Summary Screenshot Courtesy of BioTrackTHC



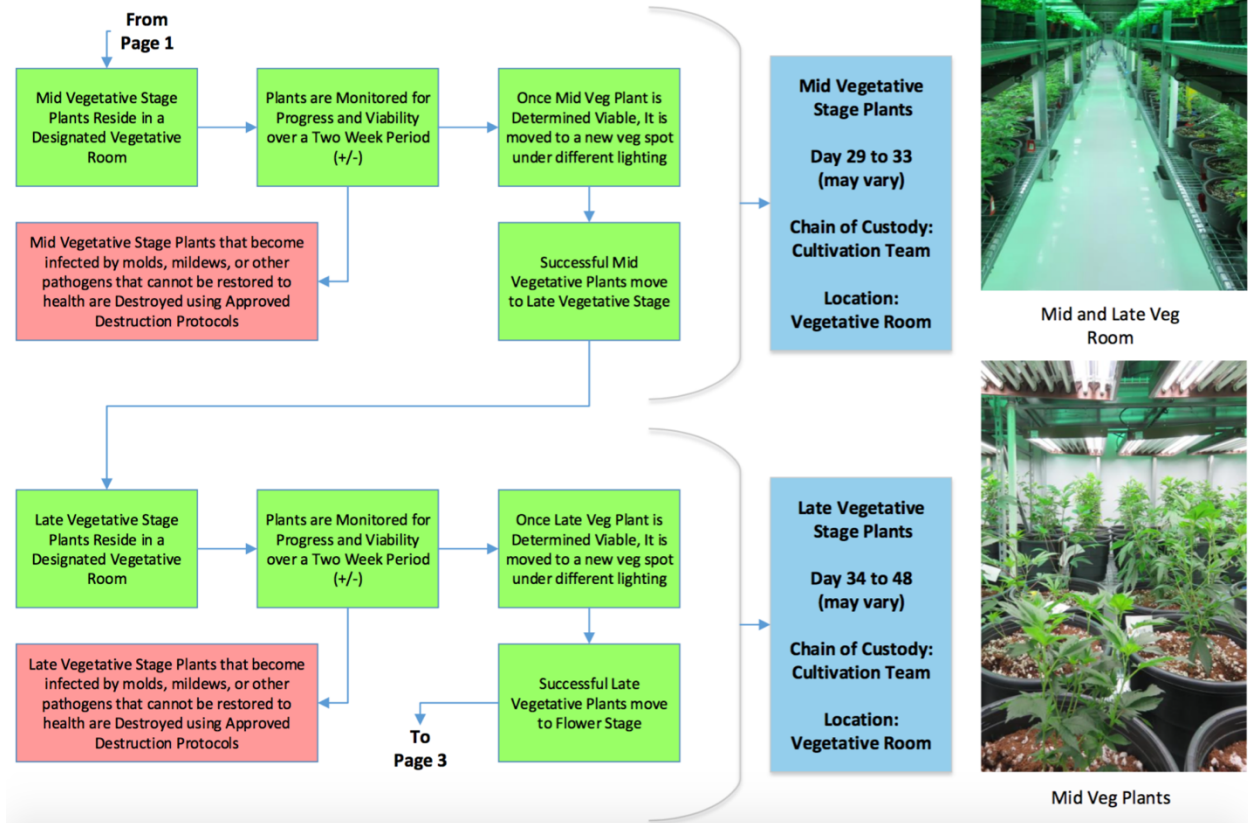
## 7.2 – Production Center Chain of Custody Overview

Page 1 of 4

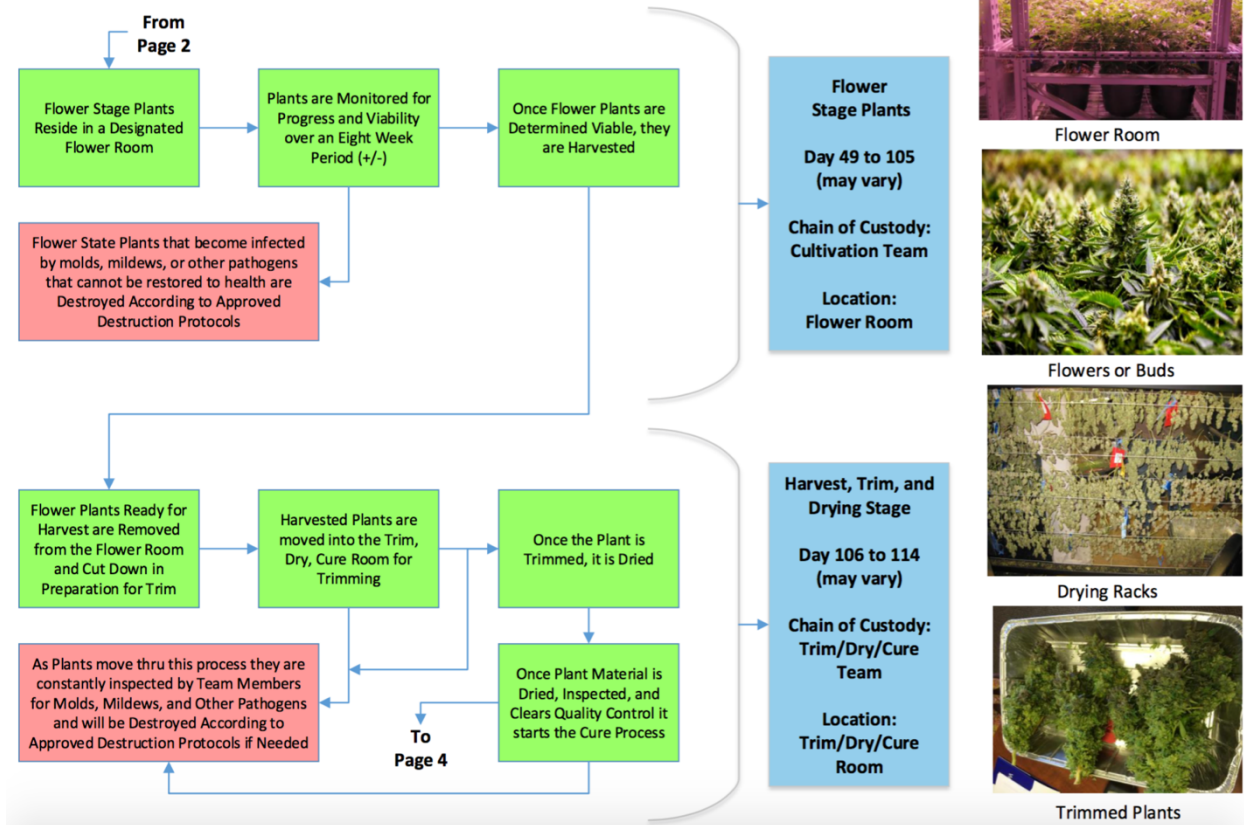
### Genetics, Clone, and Early Vegetative State Material Flow



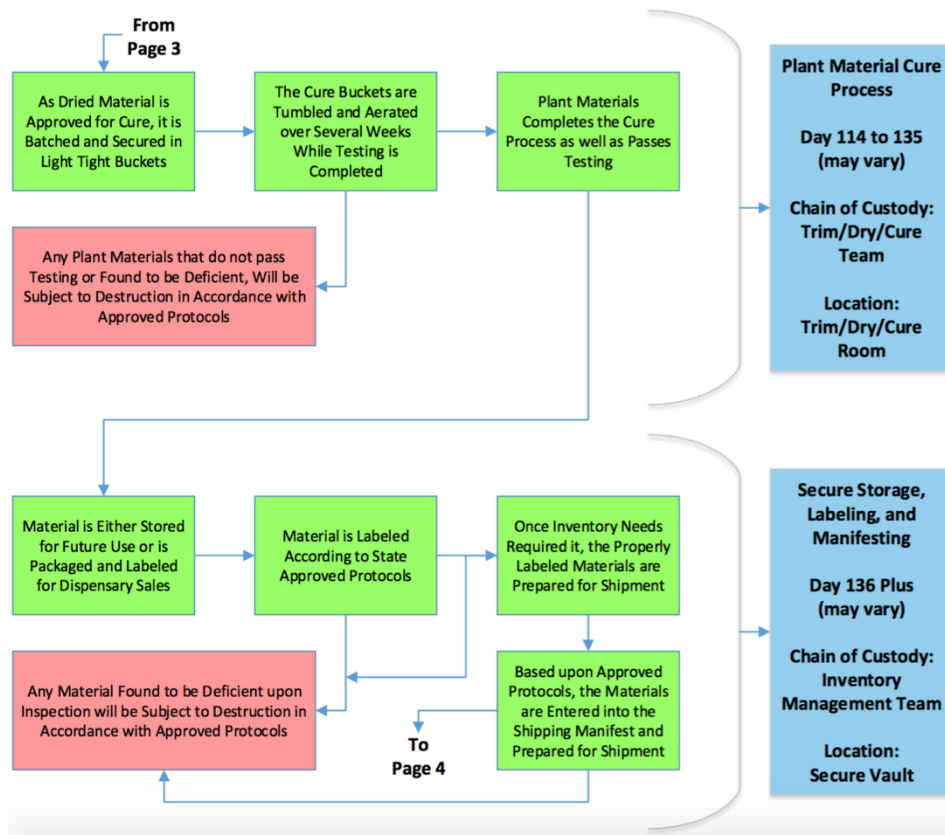
## Mid and Late Vegetative State Material Flow



## Flower and Harvest/Trim/Dry Stage Material Flow



# Flower and Harvest/Trim/Dry/Packaging Stage Material Flow



Cure Bucket



Plant Work Area



Cultivation Accessway





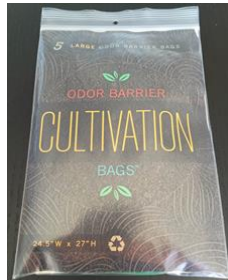
## Waste, Recalled, or Deficient Plant Materials Destruction Protocol



Waste Materials Generated by the Cultivation Operations are Gathered to a Central Secure Location (Usually very low THC basis Stalks/Stems and or Failed Plant Material)

Waste Materials are then Staged to be Ground up to a Fine Basis and Afterwards Mixed with an Approved Media Element to Facilitate Material Anonymity

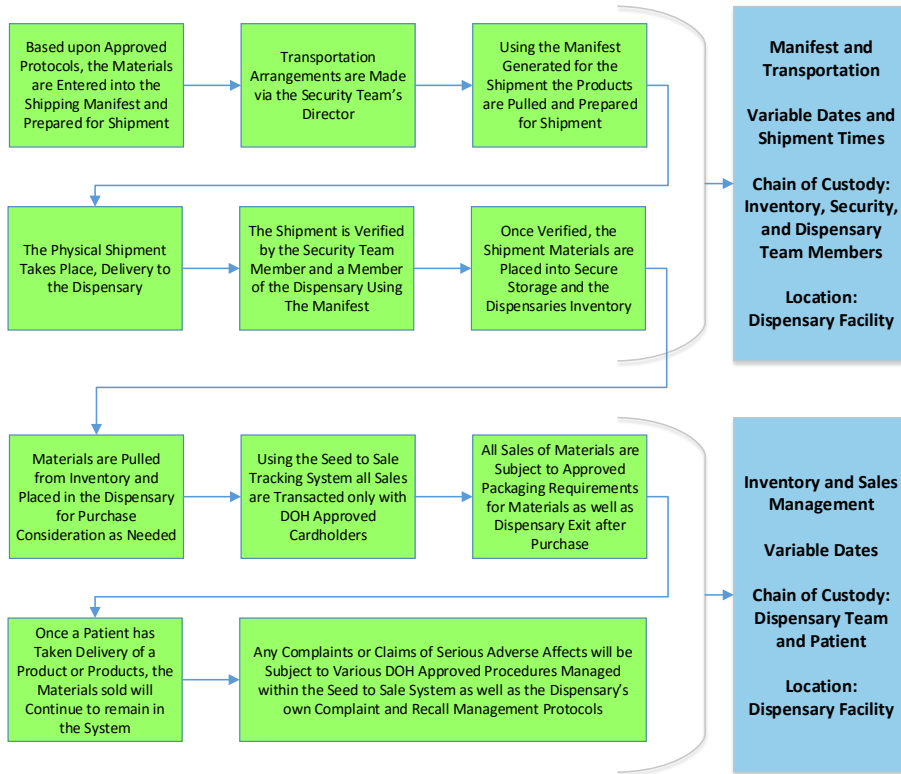
Waste Materials are then Sprayed with an Approved Sanitizing Agent Prior to Mixing with an Approved Media Prior to Disposal



The Generally Unrecognizable as a Marijuana Materials are then Placed into Odor Resistant Bags Where it is Stored Until Pickup by a Suitable Refuse Materials Contractor or

The Generally Unrecognizable as a Marijuana Materials are then Placed into a Secure Lockable Waste Receptacle Where it is Stored Until Pickup by a Suitable Refuse Materials Contractor

## Shipping, Dispensary Inventory Management, and Material Flow



Page 1 of 1



Dispensary Sample Picture



Dispensary Sample Picture



Exit Package Sample Picture



### 7.3 – BioTrackTHC Support Document

1/14/2016

Dale Fukushima

Green Leaf Medicine LLC

Reference: BioTrackTHC Support Document

Dear Dale,

BioTrackTHC provides effective cutting -edge technology solutions for the emerging legal marijuana industry. Solutions that not only prevent product theft, but assist business owners in running their cultivation, processing, packaging, and retail operations more profitably and more legally compliant. Furthermore, this is all done without leaving sensitive business and consumer data vulnerable in the cloud. Specifically, BioTrackTHC is the industry's only true seed--to--sale software system with enterprise resource planning, complete inventory tracking, point--of--sale, marketing, financial reporting and regulatory compliance features. Subsequently, because it is a server -based system with advanced security features, customers can rest assured that no one,- not even the BioTrackTHC team,- can access their business or consumer information without their permission.

This document confirms BioTrackTHC's intentions to enter into a formal agreement with Green Leaf Medicine LLC to provide software solutions guaranteed to meet published Hawaii Department of Health reporting, regulation, and compliance guidelines for cannabis production facilities in the event that an authorized license is obtained.

Thank you for your consideration of BioTrackTHC. We are eager to assist you in your efforts to acquire a license and look forward to entering into a software solution agreement with you upon receipt of that license.

Best Regards,



Moe Afaneh

Chief Operating Officer



GreenLeaf Medicine, LLC



### Hawaii HB 321

- (A) Secure inventory tracking and control;
- (B) Protecting confidential customer information;
  - (1) Ability to comply with the requirements in this chapter and chapters 329 and 3290, HRS, for inventory tracking, security, and sales limits for qualifying patients;
    - (1) Ability to maintain confidentiality of a qualifying patient's medical condition, health status, and purchases of marijuana or manufactured marijuana products;
  - (2) Ability to comply with the requirements for certified laboratory testing on marijuana and manufactured marijuana products pursuant to this chapter and sections 3290-7 and 3290-8, HRS;
  - (3) Ability to comply with requirements for signage, packaging, labeling, and chain of custody of products;
  - (4) A plan for secure disposal or destruction of marijuana and manufactured marijuana products;

*BioTrackTHC™ enables the business to collect, store, and retrieve all data and activity -- with respect to inventory records, quality assurance/laboratory testing, supplier records, patient records, client-records, employee records, recall reports, quarantine and waste reporting, sales/transaction records, disposal records, and all scanned documents -- at any time, in real time, either in-system or through the report generation tool. The System is able to record transfers of small amounts of marijuana product to a laboratory for testing. Input may include fields including but not limited to: date of transfer, transferred by, order number, source license number, laboratory name, laboratory license number, and list of transferred products including product ID, product name, lot and/or batch number, and quantity. BioTrackTHC creates a 16 digit non-repeatable identifier for each plant. This identifier is printed onto a barcode that is affixed to the plant and will remain associated with this given plant throughout its lifecycle. A user can trace the lineage of any product all the way back to the plant from which it derived. Any action performed by an employee is stored within the system indefinitely and is searchable.*

- (a) A dispensary licensee shall not transfer any marijuana or manufactured marijuana products to any other dispensary.
- (b) A dispensary licensee shall not accept any marijuana or manufactured marijuana products from any other dispensary.

### NO pre-rolls, no samples, no paraphernalia



§11-850-35 Employee records

(a) A dispensary licensee shall have available at each dispensary facility a time clock or other adequate method to record the month, day, year, and time that each employee arrives at and leaves the facility.

(b) Time record entries shall be made at the time an employee reports for duty and again when the employee goes off duty and at any time the employee leaves and returns to the premises for any reason.

(c) A dispensary licensee shall maintain all employee records, including the specific employee training provided and hours worked.

***The Time Clock function within BioTrackTHC records the date and time that every employee clocks into and out of the system. A manager can be granted the permission within the system to modify the clock in/out times for an employee in the event of an error or someone forgetting to clock out.***

§11-850-36 Transport

(a) A dispensary may transport marijuana and manufactured marijuana products between its facilities, and between its facilities and a laboratory for testing.

(b) Only employees designated by the dispensary licensee, who are trained and knowledgeable on the transportation protocols required by this chapter, shall transport marijuana and manufactured marijuana products. Every transport of marijuana and manufactured marijuana products shall be accompanied by at least two employees.

(c) Each time marijuana and manufactured marijuana products are transported, the dispensary licensee shall prepare a manifest on a form prescribed by the department that lists the elements required by the department's tracking system. A dispensary licensee shall only transport marijuana or manufactured marijuana products that are listed on the manifest. A dispensary licensee shall transport marijuana or manufactured marijuana products in secured containers. The dispensary licensee shall include a copy of the manifest in the interior and on the exterior of the container.



(b) Upon receipt of marijuana and manufactured marijuana products the dispensary licensee or the laboratory shall immediately report to the department any discrepancies between what is received and what is on the manifest.

(c) The designated employees transporting marijuana and manufactured marijuana products shall not stop at a location not listed on the manifest.

(d) The dispensary licensee shall transport marijuana and manufactured marijuana products using routes that reduce the possibility of theft or diversion.

(e) A dispensary licensee shall not transport marijuana or manufactured marijuana products:

- (1) Off site to qualifying patients or to primary caregivers;
- (2) To another county or another island within the same county; or
- (3) To, from, or within any federal fort or arsenal, national park or forest, any other federal enclave, or any other property possessed or occupied by the federal government.

***BioTrackTHC provides functionality for Cultivators, Processors and Dispensary Licensees to create transfer manifest documents. Transfer manifests will be stored and tracked by the System. Input data may include, but is not limited to, the following fields: ship from name, license number and route description. For each item include destination address, destination name, license number, address, product description, product ID and lot number, quantity and units of measure. Transfer manifests will be used as shipping documents for transfers between locations within an organization or sales between Licensees.***

(b) A dispensary licensee shall give the department access to all parts of the dispensary property, equipment, records, documents, and any other substance, material, or information relevant to ensure the dispensary licensee's compliance with this chapter, upon request.

***BioTrackTHC™ enables the business to collect, store, and retrieve all data and activity -- with respect to inventory transfers, inventory-tracking records, supplier records, patient records, client-records, employee records, recall reports, quarantine and waste reporting, sales/transaction records, disposal records, and all scanned documents -- at any time, in real time, either in-system or through the report creation tool.***



#### §11-850-38 Reports.

(a) A dispensary licensee shall submit quarterly reports on January 15, April 15, July 15, and October 15.

If the due date for submitting a quarterly report falls on a Saturday, Sunday, or State holiday, the report will be on time if it is submitted on the next day that is not a Saturday, Sunday, or State holiday. Reports shall be submitted on a form and in a manner prescribed by the department.

(b) Reports shall include but not be limited to:

1. Records of entry and exit for all individuals who entered a dispensary facility;
2. Amounts by category of marijuana produced and manufactured marijuana products manufactured and offered for sale;
3. Amounts by category of marijuana and manufactured marijuana products sold;
4. A list of all marijuana, manufactured marijuana products, or unusable marijuana materials that have been destroyed or will be destroyed;
5. A summary financial statement;
6. Laboratory results of all tests conducted;
7. Description of any breach or halt in its security system and tracking system; and
8. Any other information requested by the department.

***BioTrackTHC™ enables the business to collect, store, and retrieve all data and activity -- with respect to inventory transfers, inventory-tracking records, supplier records, patient records, client-records, employee records, recall reports, quarantine and waste reporting, sales/transaction records, disposal records, and all scanned documents -- at any time, in real time, either in-system or through the report creation tool.***

#### §11-850-39 Audits

(a) A dispensary licensee shall obtain an independent financial audit annually, at the dispensary licensee's expense, and shall provide a copy of the audit's findings to the department.

(b) The report shall be completed and submitted to the department no later than sixty days prior to the end of the license expiration date, or at another time as the department may direct.



(c) When a license is revoked, suspended, surrendered, or expires, a dispensary licensee shall file a final report thirty days following revocation, suspension, surrender, or expiration.

*In the course of doing business, a user can perform inventory audits to confirm or adjust what's showing in your inventory and what the user actually has on hand. After clicking on the Inventory Audit Icon a list will populate showing all of the items for inventory in the current inventory room. If the user wishes to run a "Blind Audit" this will prevent the employee from seeing the original weights or any differences. The Inventory Shrinkage report allows you to total loss across various products for a given time period with a threshold to ignore adjustments outside of a certain increment (mistakes).*

§11-850-41 Record retention.

(a) A dispensary licensee shall retain for a minimum of six years business operation records including but not limited to:

- (1) Inventory tracking including transport of marijuana and manufactured marijuana products;
- (2) Sales and compliance with dispensing limitations for each qualifying patient and primary caregiver;
- (3) Financial records including income, expenses, bank deposits and withdrawals, and audit reports;
- (4) Logs of entry and exit for dispensary facilities; and
- (5) Employee records.

(b) A dispensary licensee shall retain for a minimum of one year all security recordings.

*BioTrackTHC™ enables the business to collect, store, and retrieve all data and activity. All inventory records, patient records, recall reports, sales/transaction records, product disposal records, and all scanned documents can be accessed at any time (real time), either in-system or through the report creation tool. Though system actions can be adjusted or voided, at no time is any data ever fully deleted as BioTrackTHC™ maintains a log of every action, including adjustments and voids, so that the entire history of the system may be reconstructed. The availability and report ability of the system data enables the said entity to produce any information necessary for the Department during an inspection or at the Department's request.*



§11-850-42 Allowed quantities for dispensing.

- (a) A dispensary licensee may dispense to a qualifying patient or primary caregiver any combination of marijuana or manufactured marijuana products that shall not exceed four ounces of marijuana during a period of fifteen consecutive days, and shall not exceed eight ounces of marijuana during a period of thirty consecutive days .
- (b) Consistent with section 11-850-61, a dispensary licensee shall determine the quantity of marijuana or manufactured marijuana products purchased by a qualifying patient or primary caregiver from any other licensed dispensary within the state and shall not sell any amount of marijuana or manufactured marijuana products to that qualifying patient or primary caregiver of a qualifying patient that exceeds the limits identified in this chapter.

*Within “Sales Limits” a user can regulate the permissible quantities allotted to a patient or caregiver.*

§11-850-43 Disposal or destruction.

- (a) A dispensary licensee or laboratory certified by the department to test marijuana and manufactured marijuana products shall dispose of or destroy unused, unsold, contaminated, or expired marijuana or manufactured marijuana products, or waste products resulting from the cultivating or manufacturing process, including any inventory existing at the time of revocation or surrender of a license, in a way that assures that the marijuana or manufactured marijuana product does not become available to unauthorized persons and is documented as subtracted from inventory.
- (b) A dispensary licensee shall destroy or dispose of unused, unsold, contaminated, or expired marijuana or manufactured marijuana products by a means prescribed by the department or the department of public safety narcotics enforcement division administrator.
- (c) A dispensary licensee shall establish written policies and procedures to be followed by all of its employees for the disposal or destruction of unused, unsold, contaminated, or expired marijuana and manufactured marijuana products.



*During or after a Harvest or Cure, a user would create a batch for the “green waste” which would include broad leaf trim, and stems that weren’t going to be converted into a concentrated format. All waste would be weighed, given it’s own 16-digit barcode, which is permanently stored in the system prior to it being destroyed. When a BioTrackTHC user sends a sample for Quality Assurance testing and the sample does not meet minimum standards, a user may; 1) Place the product into quarantine for destruction, or, 2) Convert the product into a different format. If the user converts the non-conforming sample and originating lot, the new converted product must be retested.*

§11-850-61 Tracking requirements

(a) A dispensary licensee shall track electronically the dispensary's inventory of marijuana and manufactured marijuana products through each stage of processing, from propagation to point of sale, disposal, or destruction, and maintain a record of clear and unbroken chain of custody at all stages, including during transport of the inventory between dispensary facilities and between a dispensary facility and a laboratory.

(b) A dispensary licensee shall track electronically all sales of marijuana and manufactured marijuana products to qualified patients and primary caregivers from all dispensaries in the State, to ensure that no sales are authorized in excess of legal limits, as set out in section 3290-7, HRS, and shall have a sales system that automatically prohibits sales in excess of the legal limits and that cannot be overridden manually.

(c) A dispensary licensee shall acquire, operate, and maintain a secure computer software tracking system that interfaces with the department's computer software tracking system to allow the department real time, twenty-four hour access to the dispensary licensee's tracking system and inventory records. The dispensary licensee's tracking system shall capture and report all the data required by the department's tracking system.

(d) In the event of a breach or failure of its tracking system, a dispensary licensee shall suspend operations dependent on the tracking system until the tracking system is fully operable . The dispensary licensee shall notify the department immediately upon the breach or failure, and again when it resumes operations.

*BioTrackTHC™ enables the business to collect, store, and retrieve all data and activity -- with respect to inventory records, quality assurance/laboratory testing, supplier records, patient records, client-records, employee records, recall reports, quarantine and waste reporting, sales/transaction records, disposal records, and all scanned documents -- at any time, in real time, either in-system or through*



*the report generation tool. The System is able to record transfers of small amounts of marijuana product to a laboratory for testing. Input may include fields including but not limited to: date of transfer, transferred by, order number, source license number, laboratory name, laboratory license number, and list of transferred products including product ID, product name, lot and/or batch number, and quantity. BioTrackTHC creates a 16 digit non-repeatable identifier for each plant. This identifier is printed onto a barcode that is affixed to the plant and will remain associated with this given plant throughout its lifecycle. A user can trace the lineage of any product all the way back to the plant from which it derived. Any action performed by an employee is stored within the system indefinitely and is searchable.*

## PRODUCTS AND PRODUCT STANDARDS

### §11-850-71 Marijuana.

(a) A dispensary licensee may dispense marijuana only in the form of dried matured processed flowers of female cannabis plants.

### §11-850-72 Manufactured marijuana products.

(a) A dispensary licensee may manufacture marijuana products limited to capsules, lozenges, pills, oils and oil extracts, tinctures, ointments, and skin lotions.

### §11-850-74 Equivalent weights for manufactured marijuana products.

(a) A dispensary licensee that produces manufactured marijuana products shall calculate the equivalent physical weight of the marijuana that is used to manufacture the product, and shall make available to the department and to consumers of the manufactured marijuana product the equivalency calculations and the formulas used.

(b) A dispensary licensee shall include the equivalent physical weight of marijuana on the label of the products offered for sale.

*BioTrackTHC is a complete inventory control system that also creates a searchable, secure, tamper-evident record of each and every action performed within the system. The name and address of the recipient, the quantity delivered, and the product name, potency, batch number, and lot number of the product can all be recorded for each distribution.*

## LABORATORY CERTIFICATION, TESTING, AND STANDARDS





§11-850-81 Laboratory testing required.

A dispensary licensee shall not ' dispense marijuana or manufactured marijuana products unless a laboratory certified by the department pursuant to this chapter has tested the marijuana and manufactured marijuana products and they meet the requirements set out in this chapter.

§11-850-85 Laboratory standards and testing

(a) A certified laboratory shall test a statistically representative sample from each batch of marijuana or manufactured marijuana products. The dispensary licensee shall maintain in a secure tamper-proof manner a similar sample from the same batch, for verification testing as directed by the department.

(a) A certified laboratory shall issue to the dispensary licensee and the department a certificate of analysis for each batch of marijuana and manufactured marijuana products tested for that dispensary; provided that a certified laboratory may only test and report on those things for which it is certified. The certificate of analysis shall include the results with supporting data for the following:

- (1) The chemical profile of the batch for the following compounds:
  - (A) 9 (delta 9) - Tetrahydrocannabinol (THC)
  - (B) Tetrahydrocannabinol Acid (THCA)
  - (C) Cannabidiol (CBD)
  - (D) Cannabidiolic Acid (CBDA)
  - (E) Cannabigerol (CBG)
  - (F) Cannabinol (CBN)
- (2) The presence of the following contaminants, which shall not exceed the following levels:
  - (A) Heavy metals:
    - (i) Arsenic 10.0 ppm
    - (ii) Lead 6.0 ppm



- (iii) Cadmium 4.0 ppm (iv) Mercury 2.0 ppm
- (B) Pesticides regulated by the U.S. Environmental Protection Agency: 1.0 ppm
- (C) Solvents:
  - (i) Butanes 800 ppm
  - (ii) Heptanes 500 ppm (iii) Benzene\*\* 1 ppm
  - (iv) Toluene\*\* 1 ppm (v) Hexane\*\* 10 ppm
  - (vi) Total Xylenes
  - (m,o,p-xylene) 1 ppm

\*\* Contaminants in solvents
- (D) Any visible foreign or extraneous material, that is not intended to be part of the product being produced, including but not limited to mold, hair, insects, metal, or plastic;
- (E) Moisture content of plant material <15%
- (F) Microbiological impurities, including but not limited to:
  - 1. Total Viable Aerobic Bacteria:
    - a. Unprocessed and Processed Materials: 105 Colony Forming Unit (CFU)/g
    - b. C02 and Solvent Based Extracts: 104 CFU/g
  - 2. Total Yeast and Mold:
    - (a) Unprocessed and Processed Materials: 104 CFU/g
    - (b) C02 and Solvent Based Extracts: 103 CFU/g
- (iii) Total Coliforms:
  - (a) Unprocessed and Processed Materials: 103 CFU/g
  - (b) C02 and Solvent Based Extracts: 102 CFU/g
- (iv) Bile-tolerant Gram Negative Bacteria:
  - (a) Unprocessed and Processed Materials: 103 CFU/g
  - (b) C02 and Solvent Based Extracts: 102 CFU/g
- (v) *E. coli* (pathogenic strains) and



*Salmonella spp.*: Not detected in

1 g

(vi) *Aspergillus fumigatus*, *Aspergillus flavus*, *Aspergillus niger* :  
<1 CFU/g;

(vii) Mycotoxins: <20 µg (micrograms) of any mycotoxin per kg  
of material; and

(3) Additional testing requested at the discretion of the department.

***The above information can all be generated within BioTrackTHC and reflected on the label for each product.***

(d) The certified laboratory may retest or reanalyze ,the sample or a different sample from the same batch by following its standard operating procedure to confirm or refute the original result, upon request by the dispensary licensee or upon request by the department at the dispensary licensee's expense.

(e) The certified laboratory shall return to the dispensary licensee or destroy in a manner approved by the department any samples or portions of samples of marijuana or manufactured marijuana products that remain after testing and analysis are completed.

(f) A certified laboratory shall create, and maintain for a period of at least five years, records of testing it conducts on marijuana and manufactured marijuana products, including but not limited to:

1. The time and date the sample was obtained;
2. A description of the sample, including the amount;
3. What tests were conducted on each sample;
4. The results of the tests including the certificate of analysis; and
5. Evidence of the time, date, and method of disposal or destruction of a sample after testing is completed, and the amount of sample disposed of or destroyed, or the time and date a sample was returned to a dispensary with a description including the amount;
6. and shall make all the records available to the department upon request.

(g) A dispensary licensee shall ensure that each sample is tested and analyzed for each of the items set out in subsection (c), and may obtain results from different laboratories for different items if a laboratory cannot perform all the tests.

(h) A dispensary licensee shall maintain records of all laboratory testing results including the certificate of analysis.

(i) The level of contaminants in marijuana and manufactured marijuana products shall not exceed the standards provided in subsection (c), and if any of the



standards are exceeded, the dispensary licensee shall not dispense any portion of the batch of marijuana or manufactured marijuana product that does not conform to the standards.

(j) A dispensary licensee shall destroy a batch that does not conform to the testing standards set out in subsection (c) as indicated by the certificate of analysis; provided that a dispensary licensee shall quarantine a non-conforming batch until any retesting pursuant to subsection (d) is completed, after which the dispensary licensee shall dispose of or destroy the batch if the results of retesting confirm that the batch is non-conforming. For purposes of this section, quarantine means that the batch shall be separated from all other inventory and the quarantine status shall be indicated in the tracking system. The quarantine shall be lifted only by the department, and only upon receipt by the department of a certificate of analysis indicating that the batch conforms to the testing standards set out in subsection (c).

*BioTrackTHC automatically syncs testing data upon receipt from a certified testing location. Testing will ensure the product is free of contaminants with consistent THC and/or CBD levels. Furthermore, every plant interaction is recorded, including but certainly not limited to what additives are used and when, allowing cultivators to replicate results or make applicable changes to increase plant quality and consistency. BioTrackTHC syncs testing data to the applicable plant batch or barcode for easy display and retrieval. To simplify the process that information can be directly ported onto the associated product labels.*

*All aspects of the marijuana plants, byproduct wastes, weights, ID numbers and associated data is stored in the system indefinitely. Destruction event information and explanations are also documented and stored within the BioTrackTHC system. This data cannot be modified or deleted by the cultivation center employees or even by BioTrackTHC.*

*BioTrackTHC records manual inventory adjustments through a detailed notes section. The reason for disposal and, if applicable, disposal company are recorded and archived to the 16 digit barcode associated with the disposed cannabis. As with all transactions in the BioTrackTHC system, the employee responsible for the transaction is required to enter a PIN number or biometric fingerprint recording the date, time, and reason for the transaction.*

§11-850-92 Packaging and labeling for retail sale.



(b) Each package shall be labeled using only black lettering on a white background with no pictures or graphics and shall include:

- (1) Information about the contents and potency of the marijuana and manufactured marijuana product, including but not limited to:
  - (A) Net weight in ounces and grams or volume; and for manufactured marijuana products, also the equivalent physical weight of the marijuana used to produce the manufactured marijuana product;
  - (B) The concentration of tetrahydrocannabinol or 9 tetrahydrocannabinol, total tetrahydrocannabinol and activated tetrahydrocannabinol-A, and cannabidiol;
- (2) The dispensary licensee's license number and the name of the production center where marijuana in the product was produced;
- (3) The batch number and date of packaging;
- (4) Includes a computer tracking inventory identification number barcode generated by tracking software;
- (5) Date of harvest or manufacture and "Use by date";
- (6) Instructions for use;
- (7) The phrases "For medical use only" and "Not for resale or transfer to another person";
- (8) The following warnings:
  - (A) "This product may be unlawful outside of the State of Hawaii and is unlawful to possess or use under federal law";
  - (B) "This product has intoxicating effects and may be habit forming";
  - (C) "Smoking is hazardous to your health";
  - (D) "There may be health risks associated with consumption of this product";
  - (E) "This product is not reconunended for use by women who are pregnant or breast feeding";
  - (F) "Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug"; and "When eaten or swallowed, the effects of this drug may be delayed by two or more hours";



(6) A disclosure of the type of extraction method, including any solvents, gases, or other chemicals or compounds used to produce the manufactured marijuana product; and

(9) The name of the laboratory that performed the testing;

provided that the information in paragraphs (1) through (7) shall appear on the package, and the remainder may appear on a package insert or on the package.

(c) A dispensary licensee shall not label as organic any marijuana or manufactured marijuana product unless permitted by the United States Department of Agriculture in accordance with the Organic Foods Production Act.

***BioTrackTHC™'s label creation tool enables licensed producers to create custom container-client labels with any fields necessary to comply with applicable law. All aforementioned required fields can be added as variables. In addition to this a user can add custom disclaimers and warnings. The system will automatically print the container-client specific label upon completion of the sale.***



GreenLeaf Medicine, LLC (GLM) takes the **confidentiality of a qualifying patient's medical condition, health status, and purchases of marijuana or manufactured marijuana products** very seriously. While we understand that the Health Care Portability and Accountability Act of 1996 (HIPAA) is a Federal guideline, GLM is dedicated to treating all patient information received in the course of serving our customers to those same high standards.

BioTrackTHC software will be the primary source of stored Protected Health Information (PHI). PHI includes all “individually identifiable information” that is maintained in any form or medium obtained by GLM employees and/or stored in any manner by GLM. This type of information could be used to identify an individual and was created, used, or disclosed in the course of providing medical marijuana and medical marijuana related products to our customers.

BioTrackTHC provides record retention of patient data including purchases and medical information that is voluntarily offered by the patient. Training and operations manuals will reflect the importance of all aspects of customer privacy. Every terminal will have an individual employee login access point and only appropriate personnel will have access to those terminals and that information. In order for us to establish security best practices for maintaining confidentiality of a qualifying patient's medical condition and health status, we intend to implement the “least privileged” principal, meaning that we will only grant access to areas and systems that are necessary for employees to carry out the scope of their duties. Additionally, we plan to employ a Compliance Officer whose job will include not only cultivation and dispensary operations compliance oversight, but oversight of all patient confidentiality as well.

All first time patients will be given a packet of educational information as an introduction to GLM. It will include information on GLM's privacy practices. Consultation with a GLM Dispensing Agent will be required for all first time visitors. GLM's privacy practices will be

discussed at this time and all dispensing agents will document any patient concerns in the customer's digital notes for future reference. We may use this PHI for our management, administration, data aggregation and legal obligations, as well as to provide the highest quality services to our customers.

We will comply with all Hawaii Administrative Rules related to the safeguarding of patient confidentiality, including 11-850-40, by prohibiting photography and video recording inside of our dispensary facility by anyone other than us, as the licensee, the DOH, law enforcement personnel, or other persons approved in writing by the department.

In the event that Protected Health Information must be disclosed to a subcontractor or agent, we will ensure that the subcontractor or agent agrees to abide by the same restrictions and conditions that apply to us with respect to PHI, including the implementation of reasonable and appropriate safeguards. We may also use PHI to report violations of law to appropriate federal and state authorities.

We will also ensure patient confidentiality by safeguarding our IT infrastructure to prevent the use or disclosure of PHI. We will have a secure network at all times, and we will utilize the services of an IT professional who will be checking and maintaining our network on a regular basis to mitigate the risk of a malicious attack on our systems. Should an attack ever occur, we would have security protocols in place to make sure our patient's information is protected. For any user who will have access to patient information we will mandate that each user has: Unique User Identification, Emergency Access Procedure, Automatic Logoff, Encryption and Decryption system ability.



GLM will implement administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of the electronic protected health information that we create, receive, maintain, backup, or transmit on behalf of a patient. Such safeguards include:

- Maintaining appropriate clearance procedures and providing supervision to assure that our workforce follows appropriate security procedures;
- Providing appropriate training for our staff to assure that our staff complies with our security policies;
- Utilizing appropriate data storage, backup, disposal and reuse procedures to protect PHI;
- Utilizing appropriate authentication and access controls to safeguard PHI.

In the event of a use or disclosure of PHI that is in violation of GLM's privacy policy, we will mitigate, to the extent practicable, any harmful effect resulting from the violation by:

- Immediately dealing with any inappropriate use or disclosure of PHI up to and/or including dismissal of any employees involved.
- Documenting such disclosures of PHI and information related to such disclosures, reviewing all policies and procedures for additional measures, and reinforced training for all employees.

Upon request, we will make our internal practices, books, and records including policies and procedures, relating to the use and disclosure of PHI available to the Department of Health or their designee for the purpose of determining compliance with applicable State and Federal laws as well as GLM's privacy policy.

## Appendix 8

### **Sample Business Associate Agreement Provisions**

#### **Definitions**

##### Catch-all definition:

The following terms used in this Agreement shall have the same meaning as those terms in the HIPAA Rules (<https://www.federalregister.gov/articles/2013/01/25/2013-01073/modifications-to-the-hipaa-privacy-security-enforcement-and-breach-notification-rules-under-the>): Breach, Data Aggregation, Designated Record Set, Disclosure, Health Care Operations, Individual, Minimum Necessary, Notice of Privacy Practices, Protected Health Information, Required By Law, Secretary, Security Incident, Subcontractor, Unsecured Protected Health Information, and Use.

##### Specific definitions:

- (a) Business Associate. "Business Associate" shall generally have the same meaning as the term "Business Associate" at 45 CFR 160.103, and in reference to the party to this agreement, shall mean GreenLeaf Medicine, LLC.
- (b) Covered Entity. "Covered Entity" shall generally have the same meaning as the term "Covered Entity" at 45 CFR 160.103.
- (c) HIPAA Rules. "HIPAA Rules" shall mean the Privacy, Security, Breach Notification, and Enforcement Rules at 45 CFR Part 160 and Part 164.

#### **Obligations and Activities of Business Associate**

Business Associate agrees to:

- (a) Not use or disclose protected health information other than as permitted or required by the Agreement or as required by law;
- (b) Use appropriate safeguards, and comply with Subpart C of 45 CFR Part 164 with respect to electronic protected health information, to prevent use or disclosure of protected health information other than as provided for by the Agreement;
- (c) Report to Covered Entity any use or disclosure of protected health information not provided for by the Agreement of which it becomes aware, including breaches of unsecured protected health information as required at 45 CFR 164.410, within 48 hours and any security incident of which it becomes aware;
- (d) In accordance with 45 CFR 164.502(e)(1)(ii) and 164.308(b)(2), if applicable, ensure that any subcontractors that create, receive, maintain, or transmit protected health information on behalf of the Business Associate agree to the same restrictions, conditions, and requirements that apply to the Business Associate with respect to such information;



(e) Make available protected health information in a designated record set to the Covered Entity as necessary to satisfy Covered Entity's obligations under 45 CFR 164.524;

(f) Make any amendment(s) to protected health information in a designated record set as directed or agreed to by the Covered Entity pursuant to 45 CFR 164.526, or take other measures as necessary to satisfy Covered Entity's obligations under 45 CFR 164.526;

(g) Maintain and make available the information required to provide an accounting of disclosures to the Covered Entity as necessary to satisfy Covered Entity's obligations under 45 CFR 164.528;

(h) To the extent the Business Associate is to carry out one or more of Covered Entity's obligation(s) under Subpart E of 45 CFR Part 164, comply with the requirements of Subpart E that apply to the Covered Entity in the performance of such obligation(s); and

### **Permitted Uses and Disclosures by Business Associate**

(a) Business Associate may only use or disclose protected health information only as necessary to perform their contracted duties.

(b) Business Associate may use or disclose protected health information as required by law.

(c) Business Associate agrees to make uses and disclosures and requests for protected health information consistent with Covered Entity's minimum necessary policies and procedures.

(d) Business Associate may not use or disclose protected health information in a manner that would violate Subpart E of 45 CFR Part 164 if done by Covered Entity

(e) Business Associate may use protected health information for the proper management and administration of the Business Associate or to carry out the legal responsibilities of the Business Associate.

(f) Business Associate may disclose protected health information for the proper management and administration of Business Associate or to carry out the legal responsibilities of the Business Associate, provided the disclosures are required by law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that the information will remain confidential and used or further disclosed only as required by law or for the purposes for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

### **Provisions for Covered Entity to Inform Business Associate of Privacy Practices and Restrictions**

(a) Covered Entity shall notify Business Associate of any limitation(s) in the notice of privacy practices of Covered Entity under 45 CFR 164.520, to the extent that such



limitation may affect Business Associate's use or disclosure of protected health information.

(b) Covered Entity shall notify Business Associate of any changes in, or revocation of, the permission by an individual to use or disclose his or her protected health information, to the extent that such changes may affect Business Associate's use or disclosure of protected health information.

(c) Covered Entity shall notify Business Associate of any restriction on the use or disclosure of protected health information that Covered Entity has agreed to or is required to abide by under 45 CFR 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of protected health information.

### **Permissible Requests by Covered Entity**

Covered Entity shall not request Business Associate to use or disclose protected health information in any manner that would not be permissible under Subpart E of 45 CFR Part 164 if done by Covered Entity.

### **Miscellaneous**

(a) Regulatory References. A reference in this Agreement to a section in the HIPAA Rules means the section as in effect or as amended.

(b) Amendment. The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for compliance with the requirements of the HIPAA Rules and any other applicable law.

(c) Interpretation. Any ambiguity in this Agreement shall be interpreted to permit compliance with the HIPAA Rules.

(d) No Third Party Beneficiaries. There are no intended third party beneficiaries to this Agreement.

(e) Without in anyway limiting the foregoing, it is the parties' specific intent that nothing contained in this Agreement give rise to any right or cause of action, contractual or otherwise, in or on behalf of any Individual whose PHI is Used or Disclosed pursuant to this Agreement.

(f) References. A reference in this Agreement to a section in HIPAA means the section as in effect or as amended, and for which compliance is required.

(g) Amendment. No amendment to this Agreement shall be effective until reduced to writing and signed by the parties. Notwithstanding the foregoing, this Agreement shall be deemed automatically amended to the extent necessary for Covered Entity to continue to comply with the requirements of HIPAA and its implementing regulations, as those requirements may be amended from time to time.

(h) Interpretation. Any ambiguity in this Agreement shall be resolved in favor of a meaning that permits the Covered Entity, in the opinion of its counsel, to comply with HIPAA.



- (i) Waiver. No provision of this Agreement may be waived except by an agreement in writing signed by the waiving party. A waiver of any term or provision shall not be construed as a waiver of any other term or provision.
- (j) Authority. The persons signing below have the right and authority to execute this Agreement for their respective entities and no further approvals are necessary to create a binding Agreement.
- (k) Conflict. In the event of any conflict between the terms and conditions stated within this Agreement and those contained within any other agreement or understanding between the parties, written, oral or implied, the terms of this Agreement shall govern. Without limiting the foregoing, no provision of any other agreement or understanding between the parties limiting the liability of the Business Associate to Covered Entity shall apply to the breach of any term, condition or covenant contained in this Agreement by Business Associate.
- (l) Headings. The headings of each section are inserted solely for purposes of convenience and shall not alter the meaning of this Agreement.
- (m) Governing Law. This Agreement shall be construed in accordance with and governed by the laws of the State of Hawaii



**IN WITNESS WHEREOF**, the parties have executed this Agreement effective upon the effective date set forth above.

“Covered Entity”

By: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Issue Date: \_\_\_\_\_

“Business Associate”

By: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



GreenLeaf Medicine, LLC (GLM) will have the **ability to conduct or contract for certified laboratory testing on marijuana and manufactured marijuana products pursuant to Chapter 11-850 and sections 329D-7 and 329D-8, HRS.**

In order to ensure a high quality, safe, consistent supply of marijuana for our patients we understand the critical nature of testing our marijuana and manufactured marijuana products before they are sold to qualified patients. Testing provides patients with specific, relevant information about the quality and strength of their medicine and ensures that patients who may already have compromised health do not consume contaminants such as heavy metals, solvents, pesticides or any type of microbial impurities.

GLM will not only to follow and comply with the state mandated 3<sup>rd</sup> party laboratory testing guidelines, as laid out in in accordance with Hawaii Administrative Rules, Subchapter 7, Section 11-850-61 through 11-850-86, we will also be prepared to set up an in house marijuana testing laboratory to ensure the marijuana and manufactured marijuana products we produce meet or exceed the highest possible quality safety standards set for our patients.

In order for GLM to be compliant with the Department of Health (DOH) Rule 11-850-82, we will implement standard operating procedures (SOPs) and practices (*Appendix 9 - Section 9.3 - Recommended List of Standard Operating Procedures (SOPs)*) in order for our business to hold the required laboratory certification, independent from all dispensary licensees, employees and all other persons and entities with a financial interest in a dispensary licensee using accredited standards equivalent to the ISO 17025. GLM will also establish SOPs that include chain of custody for samples

being transferred to the laboratory for testing. GLM will meet all of the criteria for laboratory certification in accordance with Chapter 7.

In order for our business to be compliant with DOH rule 11-850-83, GLM will provide all necessary fees and documents required by the DOH so that we can test our marijuana and manufactured marijuana products. All required documentation will be available immediately upon request from the DOH. We will be available for an on-site inspection to demonstrate capacity and proficiency to test marijuana and manufactured marijuana products so that the DOH can verify that GLM meets all requirements set forth in Chapter 7. GLM will renew and provide documentation to the DOH to continuously hold all certifications required for laboratory testing of marijuana and manufactured marijuana products adhering to the requirements set forth in Chapter 7.

In order for GLM to be compliant with DOH rule 11-850-84, we will display our certification in a prominent location. GLM will establish SOPs detailing each step of the procedure including, but not limited to, documentation, sample preparation, reagent preparation, instrument set up and usage, acquisition of data, applicable calculations and laboratory sample tracking and control. GLM will be in communication with the DOH if our accreditation is in jeopardy in any way.

In an effort for GLM to be compliant with DOH rule 11-850-85, we will implement SOPs that reflect ISO standards in testing a statistically representative sample from each batch of marijuana or manufactured marijuana products and will secure a similar sample from the same batch for verification testing. GLM will test and analyze samples according to SOPs based on scientifically validated methods according to Chapter 7, rule 11-850-85. GLM will also provide a certificate of analysis for each batch



of marijuana and manufactured marijuana products tested for that dispensary and only report on the things for which we are certified to do so (*Appendix 9.2 – Potency Testing*). In order to remain compliant, procedures for the tests will be based on validated published methods (*Appendix 9.4 - Validated Procedures and 9.5 - Equipment List Notes*).

All microbial tests conducted will be validated using the FDA approved methods from April 2015 in their document, Guidelines for the Validation of Analytical Methods for the Detection of Microbial Pathogens in Foods and Feeds (*Appendix 9.1 Microbial Testing Overview*). If a batch does not meet acceptance criteria (defined by the DOH) for any of the tests above, it will be quarantined and retested. If the retest is still a failure, the batch will be destroyed. GLM will be prepared to do additional testing at the discretion of the DOH. As a business policy, GLM will create and retain all testing records for a minimum of five years including all provisions in Chapter 7, 11-850-85.

To be compliant with DOH rule 11-850-86, GLM will follow all rules and regulations set forth in Chapter 7. GLM is aware of the criteria for revocation of our laboratory certification, as set out in section 11-850-86, including what the laboratory shall do upon revocation of the certification.

In order to be compliant with DOH rule 11-850-87, GLM will follow all of the rules set forth in this section for reconsideration of certification.

GLM reiterates that if only 3rd party testing is allowed by the State we have a full understanding of these regulations and are prepared to follow all such procedures. Should the State allow for both in-house as well as 3<sup>rd</sup> party testing, we will be fully equipped and able to institute either protocol.

## **Appendix 9**

### **Appendix 9.1 – Microbial Testing Overview**

#### **Scope**

This document will provide general procedure including- time requirements, sample size, storage and disposal- for in house microbial testing of flower and concentrates.

#### **General Process**

Note: SOPs and Methods to be provided at a later date if requested.

- 1) Weigh sample into whirl-pak bag. Record weight.
- 2) Add appropriate amount of diluent
- 3) Massage bag for 1 minute
- 4) Set up serial dilutions
- 5) Plate onto petrifilm or Ecoli/Salmonella tests
- 6) Analyze/Report results after 24-60 hrs
- 7) Store/dispose of extracts and samples

#### **Chemicals Needed**

Note: The local fire department will need to be consulted regarding the storage of chemicals and chemical waste

- 1) 70% Ethanol- To be used for cleaning only

No other flammable chemicals are used in the microbial testing process



### **Sample Size Requirements**

<b><u>Sample Type</u></b>	<b><u>Sample Size (minimum)</u></b>
Flower, bud, trim	1 gram
Concentrates (extract oil, wax, etc.)	1 gram

### **Sample Time Requirements**

<b><u>Process</u></b>	<b><u>Time requirements</u></b>
Sample Prep	5 minutes (per sample)
Sample Dilutions	10 minutes (per sample)
Sample Plating	3 minutes (per sample)
Sample run time	24-60 hours (per sample) can do up to 350
Sample Analysis Time	5 minutes (per sample)

### **Sample Capacity**

<b><u>Process</u></b>	<b><u>Capacity</u></b>
Sample Preparation	25-40 samples per day per person
Incubator Capacity	480 petrifilms per day (including QCs) 50-100 Ecoli and Salmonella tests per day (including QCs)

### **Storage**

<b><u>Sample Type</u></b>	<b><u>Storage Time</u></b>
Sample (flower, concentrate, etc.)	3 months
Sample extract	1 week



### **Disposal**

This may depend on final State regulations but we have provided a suggested protocol as noted Merit Question Response 11.

### **Testing Frequency**

This may depend on final regulations, but recommendations are as follows:

- 2% of every strain of flower harvested
- 2% of every batch of oil produced

## **9.2 – Potency Testing**

### **Scope**

This document will provide general procedure including- time requirements, sample size, storage and disposal- for in house potency testing of flower and concentrates.

### **General Process**

Note: SOPs and Methods to be provided at a later date if requested.

- 8) Weigh sample into conical vial. Record weight.
- 9) Add appropriate amount of extraction solvent
- 10) Sonicate
- 11) Dilute with extraction solvent (to make sure extract is within quantifiable range)
- 12) Run sample extract on UPLC to determined % potency
- 13) Analyze/Report results using UPLC software
- 14) Store/dispose of extracts and samples

### **Chemicals Needed**



NOTE: The local fire department will need to be consulted regarding the storage of chemicals and chemical waste.

- 1) Methanol
- 2) Chloroform
- 3) Formic Acid
- 4) Ammonium Formate
- 5) Acetonitrile
- 6) HPLC grade Water
- 7) Reference Standards for each cannabinoid to be analyzed

#### **Sample Size Requirements**

<b><u>Sample Type</u></b>	<b><u>Sample Size (minimum)</u></b>
Flower, bud, trim	0.200 grams
Concentrates (extract oil, wax, etc.)	0.0500 grams

#### **Sample Time Requirements**

<b><u>Process</u></b>	<b><u>Time requirements</u></b>
Sample Weighing	1 minute (per sample)
Sample Extraction	30 minutes per batch of samples (~25)
Sample Dilution	1 minute (per sample)
Program Sequence on UPLC	15 minutes per sequence (can be up to 288 samples)
Sample run time on UPLC	5 minutes (per sample)
Sample Analysis Time	3 minutes (per sample)



UPLC/PDA Sample Capacity	288 samples per day
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### **Sample Capacity**

<b><u>Process</u></b>	<b><u>Capacity</u></b>
Sample Preparation (Extraction)	100 samples per day per person
UPLC/PDA Sample Capacity	288 samples per day (including QCs)

### **Storage**

<b><u>Sample Type</u></b>	<b><u>Storage Time</u></b>
Sample (flower, concentrate, etc.)	3 months
Sample extract	1 week

### **Disposal**

This may depend on final State regulations but we have provided a suggested protocol as noted Merit Question Response 11.

### **Testing Frequency**

This may depend on final regulations, but recommendations are as follows:

- Sample from each 10 pounds of harvest (~25 samples per 250 lbs. of the same strain)
- A sample from each production batch that will be given to a patient

## **9.3 – Recommended List of Standard Operating Procedures (SOPs)**

### **Scope**

This document will provide a list of recommended SOPs for use in Microbial testing, Potency Testing and General Lab procedures.



- 1) Micro Sample Preparation
- 2) Plating-Aerobic Count
- 3) Plating- Total Yeast and Mold
- 4) Plating-Coliform/Enterobacter
- 5) Cell Count
- 6) Ecoli Testing
- 7) Salmonella spp. Testing
- 8) Aspergillus spp. Testing
- 9) Mycotoxin Testing
- 10) Autoclave Operation and Maintenance
- 11) Biohazard Waste
- 12) Documentation of experiments and results
- 13) Media Preparation
- 14) Organism Maintenance
- 15) Laboratory Notebook Procedure
- 16) Sample Receipt, Handling, Storage and Disposal
- 17) Training Procedure
- 18) Method Validation Procedure
- 19) Potency Extraction
- 20) Potency Analysis
- 21) Moisture Content Determination
- 22) Calibration, Maintenance and Use of pH Meters
- 23) Glassware Washing and Cleaning



24) Oven Operation and Maintenance (if Moisture Content Determination is required)

25) Moisture Content Determination (if Moisture Content Determination is required)

#### 9.4 – Validated Procedures

<b>Test Type</b>	<b>Equipment</b>	<b>Validation Based On</b>
<b>Chemical Profile</b>	<b>UPLC(HPLC)/UV Detector</b>	<b>FDA/GLP Guidelines</b>
<b>Heavy Metals</b>	<b>ICP-MS</b>	<b>EPA</b>
<b>Pesticides</b>	<b>LC-MS/MS</b>	<b>EPA</b>
<b>Solvents</b>	<b>GC-FID</b>	<b>US Pharmacopeia Chapter 467</b>
<b>Visible foreign and extraneous material</b>	<b>Microscope or visual</b>	<b>FDA</b>
<b>Moisture Content</b>	<b>Oven</b>	<b>ISO Method</b>
<b>Total Viable Aerobic Bacteria, Total Yeast and Mold, Total Coliforms, and Bile-Tolerant Gram Negative Bacteria (Enterobacter)</b>	<b>3M petrifilm plates specific to the species of interest</b>	<b>AOAC</b>
<b>E. coli (also called STEC or EHEC), Salmonella spp.</b>	<b>ELISA based screen tests</b>	<b>AOAC and FDA</b>
<b>Aspergillus spp. of mold (Niger, Fumigatus, Flavus)</b>	<b>Morphology and microscopic examination</b>	<b>FDA approved media from the Bacteriological Analytical Manual</b>





## **9.5 – Equipment List Notes**

We will provide part numbers and suppliers for each item as this minimizes ambiguity when ordering. We find this is the easiest way to ensure the correct products are ordered. I used Thomas Scientific for this as I have had great experiences with their company and customer service in the past. Upon initial lab set up, they will also provide a pretty large discount (the last lab I did this with received roughly a 30% discount overall). We have no affiliation with them, just great experiences so we would like to recommend them. We have included current prices for these items as well to give you a general idea, however, these prices may change.

### **Potency/Chemistry**

For the big ticket items, i.e., purchasing most of the equipment used will be a more cost effective approach. I will see what is out there and request quotes. Please note that quotes usually take about a week to finalize with used equipment. It will also take rough 3-4 weeks to deliver. I would like to hold off on ordering or getting quotes for these items until Costa Farms is ready to purchase as inventory is constantly changing. For the equipment lists, I have quoted new prices to give a general sense of the upper end of cost.

### **UPLC recommendation**

Although you have other options, I would still recommend using the Water UPLC/PDA as this system is the most reliable if it is not consistently being run on a daily basis. Waters has also provided very good customer service in my experience. The method that we will use on this can be validated based on FDA guidelines which are some of the strictest for analytical assays. I am happy to provide other options if requested, but this would be my recommendation.

### **For Micro**



While qPCR is a very powerful tool in detecting DNA from microbial species, it has some flaws that can make testing a headache. For one, it can detect "dead" DNA, meaning the organism might be dead on the sample and therefore harmless to human consumption but its DNA can still be isolated and detected, giving a false positive result. Also the consumables and tools used in qPCR are not only expensive but require an experienced hand in processing samples. For the time being, Salmonella species and STEC Ecoli are the only tests that can be done on PCR with accuracy. The maintenance required on a regular basis can also decrease cost effectiveness if there are periods where you will not be testing samples.

I have suggested assays for STEC Ecoli and Salmonella that are protein type assays. They require the organism to be alive and do not require expensive instruments or an experienced hand to process or analyze results. I have also suggested using pre-made rapid plating tests that reduce prep time and give accurate results faster than regular plating methods. These pre-made plates are also easy for colony counting and easy to use.

For these reasons, I chose different assays that eliminate these issues for your testing requirements. All are accredited by the AOAC (**association of analytical communities**) Which requires rigorous validation studies across multiple labs.



### General Lab Equipment

Category	Item	Supplier	Part number	Cost	Unit	Quantity	Total Cost
Personal Protective Equipment	Lab coats	Thomas Scientific	1232H94	\$ 33.34	Each	10	\$ 333.40
	Lab coat hooks	Amazon		Command hooks will work			\$ -
	Wall mount for gloves-Acrylic	Thomas Scientific	1222K05	\$ 70.95	Each	1	\$ 70.95
	Gloves Nitrile-Small	Thomas Scientific	5761R17	\$ 187.00	Case (1000)	1	\$ 187.00
	Gloves Nitrile-Medium	Thomas Scientific	5761R21	\$ 187.00	Case (1000)	1	\$ 187.00
	Gloves Nitrile-Large	Thomas Scientific	5761R27	\$ 187.00	Case (1000)	1	\$ 187.00
	Gloves Nitrile-Extra Large	Thomas Scientific	5761R46	\$ 187.00	Case (1000)	1	\$ 187.00
	Wall mount for glasses	Thomas Scientific	1215X12	\$ 172.00	Each	1	\$ 172.00
	Safety Glasses	Thomas Scientific	1199D35	\$ 2.53	Each	10	\$ 25.30
	Ear Plugs	Thomas Scientific	1216Z69	\$ 47.30	200	1	\$ 47.30
Safety/ Medical	Emergency Eye Wash	Thomas Scientific	1224B27	\$ 52.55	3	1	\$ 52.55
	Chemical Spill Kit	Thomas Scientific	8238N05	\$ 186.76	1	1	\$ 186.76
	First Aid Kit	Thomas Scientific	1233T96	\$ 163.45	1	1	\$ 163.45
	Fire Extinguisher						\$ -
	Emergency Shower						\$ -
Glassware	Media Bottles-100mL	Thomas Scientific	1395-100	\$ 93.17	Case (10)	1	\$ 93.17
	Media Bottles-500mL	Thomas Scientific	1395-500	\$ 123.66	Case (10)	1	\$ 123.66
	Media Bottles-1000mL	Thomas Scientific	1395-1000	\$ 151.84	Case (10)	1	\$ 151.84
	Media Bottles-2000mL	Thomas Scientific	1395-2000	\$ 399.89	Case (10)	1	\$ 399.89
	Beaker-100mL	Thomas Scientific	1531H76	\$ 191.26	Pack (12)	1	\$ 191.26
	Beaker- 500mL	Thomas Scientific					\$ -
	Beaker-1000mL	Thomas Scientific	1531J51	\$ 86.28	Pack (6)	1	\$ 86.28
	Erlenmeyer Flask-125mL	Thomas Scientific	4907F23	\$ 98.16	Pack (12)	1	\$ 98.16
	Erlenmeyer Flask-500mL	Thomas Scientific	4907F35	\$ 55.84	Pack(6)	1	\$ 55.84
	Erlenmeyer Flask-1000mL	Thomas Scientific	4907F41	\$ 94.23	Pack(6)	1	\$ 94.23
	Volumetric Flask-10mL	Thomas Scientific	0319B48	\$ 285.38	12	1	\$ 285.38
	Volumetric Flask-50mL	Thomas Scientific	0319U75	\$ 36.67	1	5	\$ 183.35
	Volumetric Flask-100mL	Thomas Scientific	0319B45	\$ 330.52	12	1	\$ 330.52
	Volumetric Flask-500mL	Thomas Scientific	0319W81	\$ 60.50	1	3	\$ 181.50
	Volumetric Flask-1000mL	Thomas Scientific	0319B41	\$ 72.81	1	3	\$ 218.43
	Graduated Cylinder-50mL	Thomas Scientific	3557B73	\$ 21.34	Each	3	\$ 64.02
	Graduated Cylinder-100mL	Thomas Scientific	3557B77	\$ 25.11	Each	3	\$ 75.33
	Graduated Cylinder-500mL	Thomas Scientific	3557B85	\$ 56.84	Each	3	\$ 170.52
	Graduated Cylinder-1000mL	Thomas Scientific	3557B89	\$ 70.69	Each	3	\$ 212.07
	Graduated Cylinder-2000mL	Thomas Scientific	3557B93	\$ 115.11	Each	3	\$ 345.33
General	Kimwipes- Small (4.4x8.4)	Thomas Scientific	2904F24	\$ 8.74	Box (280)	5	\$ 43.70
	Kimwipes-Large (11.8x11.8)	Thomas Scientific	2904F39	\$ 9.59	Box(196)	5	\$ 47.95
	Parafilm	Thomas Scientific	1222K01	\$ 73.48	4"x250ft	2	\$ 146.96
	Sharpie Markers	Amazon					\$ -
	Label Tape	Thomas Scientific	1209D22	\$ 49.55	Case (12) 500"	1	\$ 49.55
	Spatulas-Variou	Thomas Scientific	1232X12	\$ 82.85	7 assorted	3	\$ 248.55
	Spatulas-Scoop	Thomas Scientific	1195R87	\$ 32.03	Pack(12)	1	\$ 32.03
	Bench Mixer Vortexer	Thomas Scientific	1227U58	\$ 235.00	Each	2	\$ 470.00
	Timer	Thomas Scientific	9371W52	\$ 32.48	Each	2	\$ 64.96
	Lab Notebooks	Scientific Notebook Company	2001HC	\$ 19.00	Each	5	\$ 95.00
	Wash Bottles	Thomas Scientific	1186Z39	\$ 28.60	Pack (5)	1	\$ 28.60
	Thermometer	Thomas Scientific	9313A86	\$ 25.14	Each	4	\$ 100.56
	Tweezers	Thomas Scientific	1199N87	\$ 9.49	Each	4	\$ 37.96
	Lab benches						\$ -
	Chairs	Uline	H-1375	\$ 209.00	Each	2	\$ 418.00
	MSDS Safety Sign						\$ -
	Fire Extinguisher Safety sign	Thomas Scientific	1190R19	\$ 10.60	Each	2	\$ 21.20
	3 bay sink						\$ -
	Eye Wash Safety Sign	Thomas Scientific	1215U10	\$ 13.56	Each	1	\$ 13.56
	Solvent Transport Containers						\$ -
Waste	Glass disposal Boxes	Amazon	1236E00	\$ 102.85	Pack(6)	1	\$ 102.85
	Organic Waste Carboys						\$ -
Cleaning	Alconox (soap)	Thomas Scientific	2902G05	\$ 36.62	4lb Box	2	\$ 73.24
	Cleaning Brushes	Thomas Scientific	1929M10	\$ 65.04	Pack(10)	1	\$ 65.04
	Glassware drying rack	Thomas Scientific	1193Q84	\$ 384.00	Each	1	\$ 384.00
Storage	Glassware/Supply storage cabinets	Uline	H-3109	\$ 455.00	Each	2	\$ 910.00
	Flammable Solvent Cabinet	Thomas Scientific	0501A00	\$ 1,328.89	Each	1	\$ 1,328.89
Pipettes	Pipette 2-20uL	Thomas Scientific	1226R09	\$ 361.00	Each	1	\$ 361.00
	Pipette 20-200uL	Thomas Scientific	1226R12	\$ 361.00	Each	1	\$ 361.00
	Pipette 100-1000uL	Thomas Scientific	1226R14	\$ 361.00	Each	1	\$ 361.00
	Pipette Tips 2-20uL	Thomas Scientific					\$ -
	Pipette Tips 20-200uL	Thomas Scientific					\$ -
	Pipette Tips 100-1000uL	Thomas Scientific					\$ -

\*Note: We can probably get pipettes and tips as a package deal



### **Microbial Testing Lab Equipment**

Category	Item	Supplier	Part number	Cost	Unit	Quantity	Total Cost
<b>General</b>	Cell counter (hemocytometer)	Amazon	634-6310	\$ 160.00	Each	2	\$ 320.00
	Balance to 0.01g	Thomas Scientific	1218V30	\$ 3,706.00	Each	1	\$ 3,706.00
	Pipettes p10,p200,p1000	VWR	89133-288	\$ 1,178.31	set	1	\$ 1,178.31
	Pipette tips for above						
<b>Plating</b>	Incubator 35	Thomas Scientific	1187Q10	\$ 3,549.00	Each	1	\$ 3,549.00
	Incubator 25	Thomas Scientific	1187Q10	\$ 3,549.00	Each	1	\$ 3,549.00
	4 deg fridge for organisms*	Thomas Scientific	8050H12	\$ 2,181.36	Each	1	\$ 2,181.36
	Autoclave	Thomas Scientific	1213N94	\$ 7,886.00	Each	1	\$ 7,886.00
	Colony counter with backlight	Thomas Scientific	1199K33/1199K34	\$ 2,413.30	Each	1	\$ 2,413.30
	Pipetteman	Thomas Scientific	1203G40	\$ 144.22	Each	1	\$ 144.22
	Magnetic stir/heat blocks	Thomas Scientific	8613L22	\$ 952.20	Each	2	\$ 1,904.40
	BSL II hood (Laminar Flow)	Thomas Scientific	1204H29	\$ 17,445.00	Each	1	\$ 17,445.00
	Microscope (10x)	Thomas Scientific	1195A23	\$ 574.00	Each	1	\$ 574.00
<b>Mycotoxins</b>	8 channel pipettor	Thomas Scientific	1221U36	\$464.40	Each	1	\$ 464.40
	Microwell reader	Romer	EQOLE4700	2,500.00	each	1	\$ 2,500.00
	Magic Bullet small silver with cups	Amazon		39.99	each	1	\$ 39.99

\*Should be small stand alone fridge

Note: Quantities are rough estimates and will vary based on the size of the lab and lab staff



### Microbial Testing lab Consumables

Category	Item	Supplier	Part number	Cost	Unit	Quantity	Total Cost
General	Whirl Pak Bags	Thomas Scientific	1303N38	\$ 187.05	250/bx	1	\$ 187.05
	Buffered Peptone Water	Thomas Scientific	C941F21	\$ 53.63	500g	1	\$ 53.63
	Butterfield's Buffer	Thomas Scientific	1756U70	\$ 108.84	72/pk	1	\$ 108.84
	1ml pipette tips	Thomas Scientific	1195D88	\$ 46.35	768/pk	1	\$ 46.35
	Salmonella typical	Microbiologics	0901P	\$ 150.00	2 sticks	1	\$ 150.00
	Salmonella atypical	Microbiologics	01054P	\$ 150.00	2 sticks	1	\$ 150.00
	STEC Ecoli	Microbiologics	01204P	\$ 150.00	2 sticks	1	\$ 150.00
	Ecoli	Microbiologics	0495P	\$ 150.00	2 sticks	1	\$ 150.00
	Yeast	Microbiologics	0332P	\$ 150.00	2 sticks	1	\$ 150.00
	Coliform	Microbiologics	0839P	\$ 150.00	2 sticks	1	\$ 150.00
	Mold	Microbiologics	0178P	\$ 150.00	2 sticks	1	\$ 150.00
	Dextrose	Thomas Scientific	C979Y90	\$ 115.20	500g	1	\$ 115.20
	Agar	Thomas Scientific	1223G90	\$ 127.13	500g	1	\$ 127.13
	Ferric Ammonium Citrate	Thomas Scientific	C993Z36	\$ 38.24	100g	1	\$ 38.24
	Peptone	Thomas Scientific	C992F05	\$ 75.70	500g	1	\$ 75.70
	Gentamycin	Thomas Scientific	C000R58	\$ 136.10	5g	1	\$ 136.10
Reusable Supplies	Stir bars	Thomas Scientific	1207P99	\$ 10.15	Each	4	\$ 40.60
	Thermometer	Thomas Scientific	9313A86	\$ 25.14	Each	4	\$ 100.56
	flame sterilizer (alcohol lamp)	Thomas Scientific	2077G85	\$ 76.33	Each	1	\$ 76.33
	plate spreader for RYM	Carolina	824105	\$ 8.50	Each	5	\$ 42.50
	Plate spreader for all other	Carolina	824100	\$ 7.50		5	\$ 37.50
Organism Detection Supplies	Rapid salmonella test	Romer Labs	7000190	\$ 882.00	100 tests	1	\$ 882.00
	ImmunoCard Stat, EHEC, for the detection of Shiga toxins	Hardy Diagnostics	751630	\$ 1,300.00	30 tests	1	\$ 1,300.00
	RYM Petrifilm	Thomas Scientific	1185X02	\$ 137.71	50/box	1	\$ 137.71
	Rapid Aerobic Petrifilm	Thomas Scientific	1185X20	\$ 96.92	50/cs	1	\$ 96.92
	*Enteroc/coliform Petrifilm	Thomas Scientific	1185X10	\$ 117.94	50/cs	1	\$ 117.94
Mycotoxin Detection Supplies	Methanol-ACS Grade	Thomas Scientific	C989T82	\$ 593.00	4x4L	1	\$ 593.00
	Whatman 1 paper	Thomas Scientific	4712B45	\$30.92	100/pk	1	\$ 30.92
	reagent boat	Thomas Scientific	1228K19	\$115.70	200/cs	1	\$115.70
	AgraQuant® Total Aflatoxin assay	Romer Labs	COKAQ1000	310	96 well	1	\$310.00
	AgraQuant® Ochratoxin Assay	Romer Labs	COKAQ2000	310	96 well	1	\$310.00
	Mycosep112 column	Romer Labs	COCMY2112	135	25/pk	1	\$135.00
	Filter funnel	Thomas Scientific	5207H41	\$6.52	2	1	\$6.52

also noted in Chemistry-can borrow

Note: Quantities are rough estimates and will vary based on the size of the lab and lab staff



GreenLeaf Medicine, LLC (GLM) has the **ability to comply with requirements for packaging, labeling and chain of custody of products.**

GLM has solicited proposals from several packaging companies to service our needs for both shipping from our production center to our retail dispensing location as well as point of sale transactions to our patients. We will make our final selection of this packaging partner based upon their ability to deliver upon the requirements set forth within Section 329D-11, HRS and other variables including cost, reputation and best practices with regard to medical marijuana and consumer safety prior to the retail dispensary becoming operational (*Appendix 10.1 - Product Specifications*).

Prior to shipping any marijuana-related products from production to retail, GLM will have appropriately sized shipping containers on-site, requiring the use of tamper evident lids, constructed out of opaque material, sealed with tamper evident tape and signed by no less than two managers on duty. They will prepare the shipment of marijuana and marijuana related products in full view of video surveillance cameras and in accordance with all pertinent regulations. The shipment will be placed on a shipping pallet and loaded for transport.

All products being shipped from the production center to the retail location will have a unique label generated by BioTrackTHC compatible software system that meets or exceeds the State selected Computer Tracking Software System. All labeling will be generated from this software system, ensuring the product history is easily traceable. Included in this label will be: 1) the date and time the package was sealed for shipment, 2) the name and signature of the manager responsible for preparing the shipment, 3) the unique shipment identification, 4) the description of the shipment including the weight of each item in the package, including each item's unique bar code generated from the BioTrackTHC software, and 5) the products lab-testing results.

All packaging and labeling at the dispensary will comply with Section 329D-11, HRS, at a minimum, for the sale of the product to the patient. The packaging for marijuana will be placed in ASTM child-resistant, opaque bags and will contain no more than the patient's allowable purchase amount which will be verified by the inventory tracking system (*Appendix 10.2 - Sample Exit Bag*). The packaging for manufactured Cannabis infused products will be pre-packaged in ASTM child-resistant, opaque packaging and contain no more than 100 milligrams of THC in 10 mg dosing per package. In addition, all manufactured marijuana product packaging will be in accordance with Section 329D-9, HRS.

BioTrackTHC's label creation tool enables GLM to create custom container client labels with all required fields which will be added as variables. In addition to this, an authorized user can add custom disclaimers and warnings as required in 11-850-92. For a full list of fields currently integrated into BioTrackTHC, please see *Appendix 10.3 - BioTrackTHC Label Fields*.

The a BioTrackTHC compatible software system that meets or exceeds the State selected Computer Tracking Software System will assist us in tracking chain of custody from plant clone to point of sale, in accordance with Hawaii Administrative Rules, Subchapter 5, Section 11-850-61, Tracking Requirements. (*Appendix 10.4 - Production Center Chain of Custody Overview*) BioTrackTHC offers the ability to track the plant during each step of the plant's life-cycle, including cloning, early, mid and late vegetative phases, flowering, harvesting, trimming, drying, curing and storage. As the plant moves through its lifecycle and transfers locations, it's movement will be entered into the BioTrackTHC comparable system by staff. This will enable us to know how many plants we have and where they are in the production center at all times. At the point the product is packaged for shipment, the shipping manager will enter the shipment into the BioTrackTHC comparable system indicating the shipment is leaving the facility and is in transit.

A shipping manifest will be generated to accompany the shipment. There will be space for the receiving dispensary manager to sign and date the manifest to be returned to the production center to be filed and retained for a period of six years.

At the point the shipment arrives at the dispensary, the dispensary manager shall log into the BioTrackTHC comparable system in order to check in the shipment. The system will now indicate the shipment has arrived to the dispensary. The tamper evident shipping containers and their contents are visually inspected in full security camera view to ensure they are secure, undamaged, appropriately labeled, and reconciled against the shipping manifest. This duty will be performed by an approved manager and another employee. The manager will sign and date the shipping manifest and return it to the driver to be returned to the production center. Should there be a discrepancy, it will be immediately declared to the production center for investigation. The shipping container will then be opened and the products will be removed in full view of the security camera with the aid of another employee to be properly reconciled to the shipping manifest. Each product will then be entered into the inventory tracking system, in order to update inventory levels. At this time the medical marijuana and manufactured marijuana products received will be physically added to retail dispensing inventory.

To complete the chain of custody to a qualifying patient, the BioTrackTHC compatible system will be utilized to transact the sale. To ensure that no sales are authorized in excess of legal limits, as set out in Section 329D-7 and 329D-13, HRS, the system shall automatically prohibit the sale and will not be able to be manually overridden. Assuming the patient is within their allowable purchase limit, the system will indicate that the patient has taken custody of the product, allowing the Department of Health to view the transaction in real time.

*Appendix 10.5* shows mock-ups of sample products to be manufactured and sold by GLM.



## Appendix 10

### 10.1 Product Specifications (SOP 14.001-14.005)

The following SOP details the proposed medical products, formulations and extracts infused with CO2 Cannabis extract as specified by the State of Hawaii Department of Health Medical Marijuana Dispensary System Application. GLM is proposing a total of five (5) products for phase one of the contemplated operations. These products consist of the following: (1) Sub-Lingual Oro-Mucosal Tincture; (2) Oral Capsules; (3) Oral Use Syringe; (4) Transdermal Ointment; and (5) Herbal Lozenges. Each product shall be produced in 4 distinct Cannabinoid Extracted Oil Concentrations Per Weight (%) and per the formulations further described below (Cannabinoid concentrations provided by Denver Packaging Company, LLC MIP #00362, a licensed Colorado Medical Marijuana Infused Product Manufacturer).

#### 1. Sub-Lingual Oro-Mucosal Tincture (GLM-TINC)

- Description: 1oz Cannabinoid-Veg Glycerin Tincture
- Formulation & Strength: 300mg comprising 30 Servings at 10mg/1ml (SOP Section 13.001)
- Packaging: 1 ounce Droppers with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM- TINC	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TINC01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TINC02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TINC03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TINC04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

#### 2. Oral Capsules (GLM-CAP)

- Description: 30 MCT Cannabinoid blended Oral Liquid Capsules
- Formulation & Strength: 300 mg total per container comprising 30 total doses at 10mg/capsule (SOP Section 14.001)
- Packaging: White HDPE Pharmaceutical Rounds with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- Cannabinoid Extracted Oil Concentration Per Weight (%)



GLM-CAP	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
CAP01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
CAP02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
CAP03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
CAP04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

### 3. Oral Use Syringe (GLM-OS)

- Description: Oral delivery syringe filled with Cannabinoid rich CO2 extracted essential oil
- Formulation & Strength: 300mg active Cannabinoids per 5ml syringe comprising 30 total doses at 10mg per serving
- Packaging: 5 ml Oral Medication Syringe With Tip Cap with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-OS	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
OS01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
OS02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
OS03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
OS04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%



4. Transdermal Ointment (GLM-TDO)

- a. Description: Transdermal Ointment infused with Cannabinoid rich CO2 extracted essential oil
- b. Formulation & Strength: 400 mg total active Cannabinoids per 4 ounce container
- c. Packaging: 4 ounce White HDPE Rexam Pharmaceutical Ointment Jars with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- d. Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-TDO	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TDO01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TDO02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TDO03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TDO04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

5. Herbal Lozenges (GLM-LOZ)

- a. Description: Solid consumable medicated tablet that designed to be held in the mouth for slow oral dissolution.
- b. Formulation & Strength: 100 mg total per package comprising 10 total doses at 10mg/tablet
- c. Packaging: 10 count blister pack with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.
- d. Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-LOZ	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
LOZ01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
LOZ02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
LOZ03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
LOZ04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%



## 10.2 – Sample Exit Bag



Courtesy of FunkSac™



## 10.3 BioTrackTHC Production Inventory Tracking and Medical Dispensary POS Tracking Screenshots:

### Production Inventory Tracking Functionality:

Product	Strain	Category	Available	Total	Assigned	Time
1 gram (4)		Pre-Packaged	837	837		
1/4 Ounce (1)		Pre-Packaged	10	10		
Acapulco Gold (3)		Sativa	572.00g	572.00g		
AK-47 (2)		Sativa	460.32g	460.32g		
Bananna Kush (3)			3004.21g	3004.21g	Partially	
Blue Dream (4)		Cross Breeds	1525.00g	1525.00g		
Blue Thunder (1)		Sativa	21.00g	21.00g		
Chebba Chew (1)		Edibles	100	100		
Clone (1)		Misc.	1	1		
Fan Leaf (4)			100.00g	100.00g	No	
Hash Oil 1g (1)		Misc.	4.00g	4.00g		
Island Maui Haze (1)		Indica	121.00g	121.00g		
Kief (8)			431.50g	431.50g	No	
Pre-Rolls (1)		Misc.	20	20		
Shake (8)			490.00g	490.00g	No	
Stems (4)			367.33g	367.33g	No	

Current Inventory On Hand Report Courtesy of BioTrackTHC

Item	Strain	Type	Available
9000 0012 3000 0161 Afgoo Lightning	Flower Lot	2260.00	
9000 0012 3000 0160 Afgoo Lightning	Flower Lot	2237.00	
9000 0012 3000 0159 Banana Kush	Flower Lot	2237.00	

Shipping Manifest Tracking Report Courtesy of BioTrackTHC



File Growhouse Inventory Sales Options Compliance Marketing Administration Help

**Growhouse Reports Inventory Timeclock Messages Appointments**

Running Transaction and General Reports

Select the report you want to view.  
You can use the controls in the purple section to specify different parameter values for a more specific report.  
Click on the "View Report" button when ready.

Select a report:  
Inventory Forensics Report

View Report Export Print

Start: 04/04/2012 12:00:00 AM  
End: 04/04/2013 11:59:59 PM  
Location:   
Strain:   
Product:   
Category:   
Inventory ID:

**Inventory Forensics Report**

Name	Inventory ID	Location	Previous Quantity	New Quantity	Difference
Bananna Kush	0455 0442 6306 9093	Green Thumb Growers	12.00	12.00	0.00
	0496 1442 7587 0817	Green Thumb Growers	1632.21	1632.21	0.00
Jack Flash	0553 9738 1334 2035	Green Thumb Growers	21.00	21.00	0.00
Blue Dream	0603 3174 9404 8938	Green Thumb Growers	451.00	0.00	-451.00
		Green Thumb Growers	451.00	451.00	0.00
AK-47	0619 4097 1395 0501	Sunny side Disp	817.00	17.00	-800.00
		Sunny side Disp	0.00	817.00	817.00
		Green Thumb Growers	817.00	0.00	-817.00
		Green Thumb Growers	817.00	817.00	0.00
Blue Dream	0706 3568 7277 2109	Green Thumb Growers	323.00	0.00	-323.00

Inventory Forensics Report Courtesy of BioTrackTHC

Convert Plant To Inventory

Instructions: Harvesting your plant is potentially a multi-step process. If you have any Pre-Trim, please weigh that now. If you are weighing it in a container, please also select the Container. If you do NOT trim before the drying process, please ensure there is nothing on the scale and simply click Next.

Strain: Acapulco Gold

Stems: 89.00 g

Sugar Leaf: 65.00 g

Trim: 41.22 g

Bud: 48.21 g

Container: None

Container Weight:

Grade: A

Barcode: 1 8554 7072 3928

Barcode: 2 6013 0075 6736

48.21 g

Always zero the scale before use

Gram Mode Ounce Mode Manual Mode Zero Scale

Batch Later Batch Now Discard

Batch Later Batch Now Discard

Batch Later Batch Now Discard

Batch Later Batch Now

Grade A A+ B

Capturing Trim Wet Weights Tracking Screenshot Courtesy of BioTrackTHC







Tracking Plant Yields Tracking Screenshot Courtesy of BioTrackTHC

### Medical Dispensary Inventory Tracking Functionality:

Patient Information Screenshot Courtesy of BioTrackTHC





POS Customer Transaction Screen Courtesy of BioTrackTHC

Sales Report								
Location	Name	Price	Tax	Totalprice	Terminal	Userid	Date	
en Thumb Growers	Anthony Stevens	19.50	1.35	20.85	1	Initial User	11/09/	
en Thumb Growers	Adam Smith	195.00	13.47	208.47	1	Initial User	11/09/	
en Thumb Growers	Anthony Stevens	18.45	1.27	19.72	1	Initial User	11/12/	
en Thumb Growers	David Smith	228.60	15.79	244.39	1	Initial User	11/13/	
en Thumb Growers	David Smith	102.00	7.04	109.04	1	Initial User	11/14/	
en Thumb Growers	Anthony Stevens	52.87	3.65	56.52	1	Initial User	11/14/	
en Thumb Growers	frank miles	160.80	11.10	171.90	1	Initial User	11/14/	
en Thumb Growers	Adam Smith	26.00	1.79	27.79	1	Initial User	11/15/	
en Thumb Growers	Anthony Stevens	23.40	1.61	25.01	1	Initial User	11/15/	
en Thumb Growers	frank miles	97.00	6.70	103.70	1	Initial User	11/15/	
ny side Disp	sandy smith	47.34	3.26	50.60	1	Anthony	11/15/	
ny side Disp	Adam Smith	143.60	9.91	153.51	1	Anthony	12/06/	

Dispensary Sales Report Tracking Summary Screenshot Courtesy of BioTrackTHC

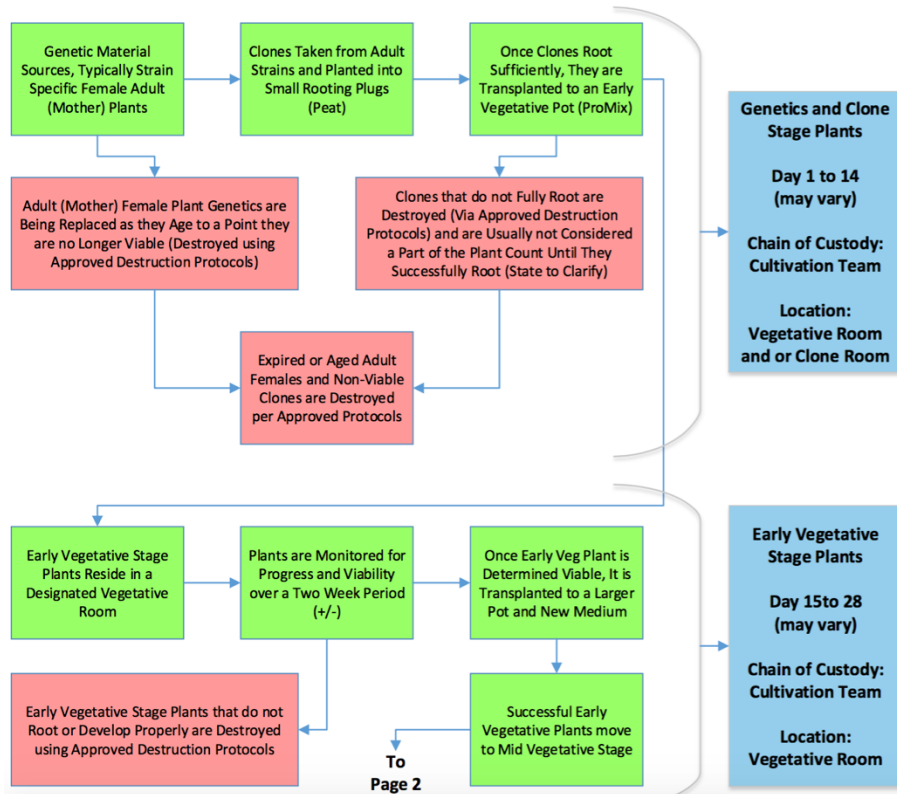




## 10.4 – Production Center Chain of Custody Overview

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### Genetics, Clone, and Early Vegetative State Material Flow



Taking Clones



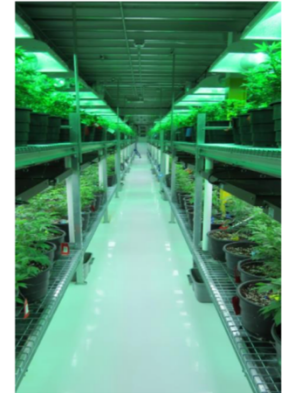
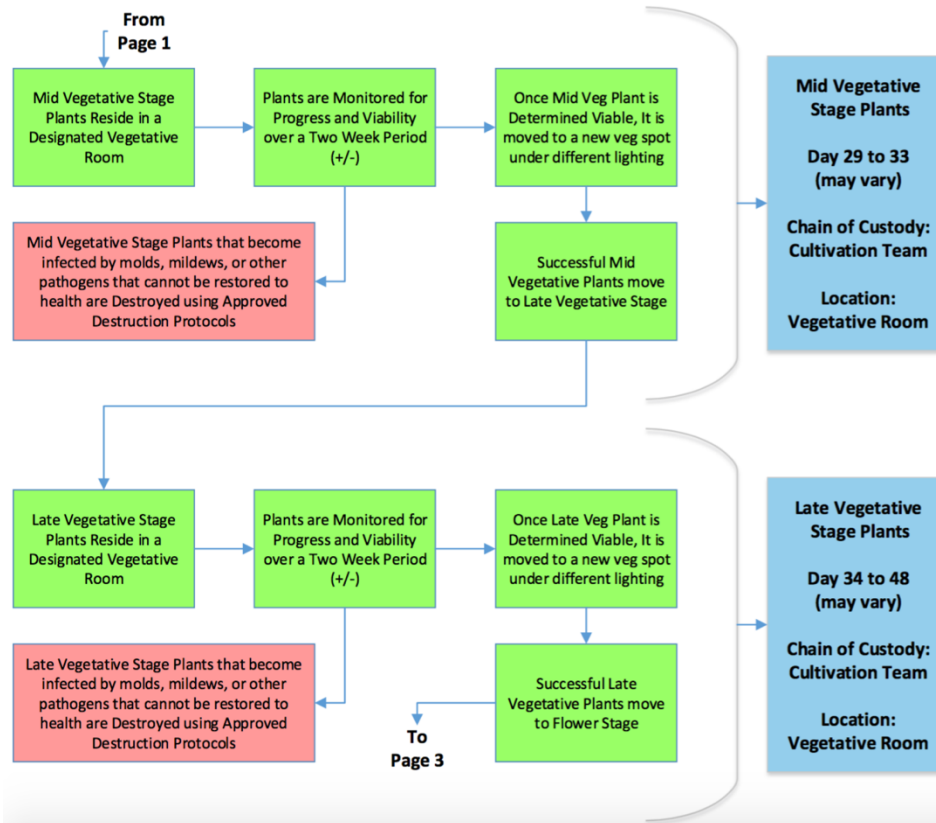
Clone Domes



Early Veg Plants



# **Mid and Late Vegetative State Material Flow**

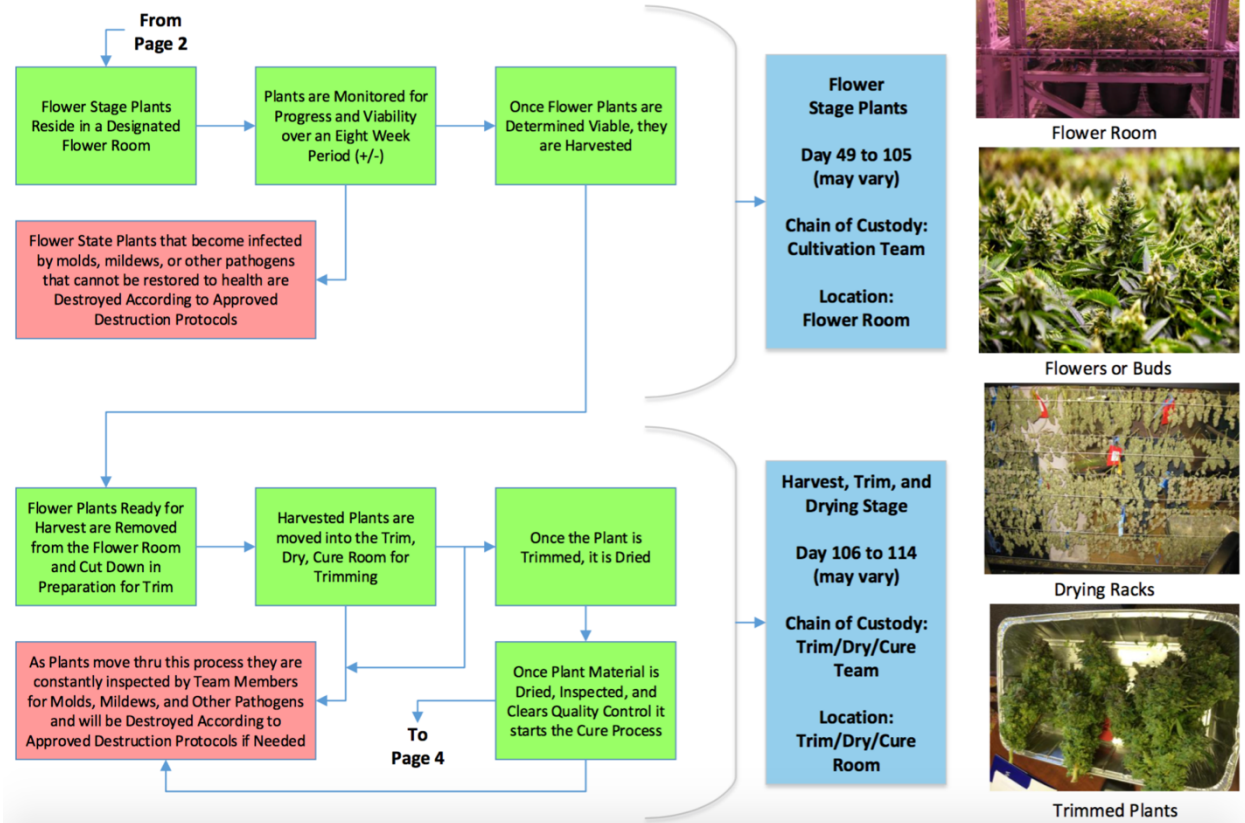


Mid and Late Veg Room

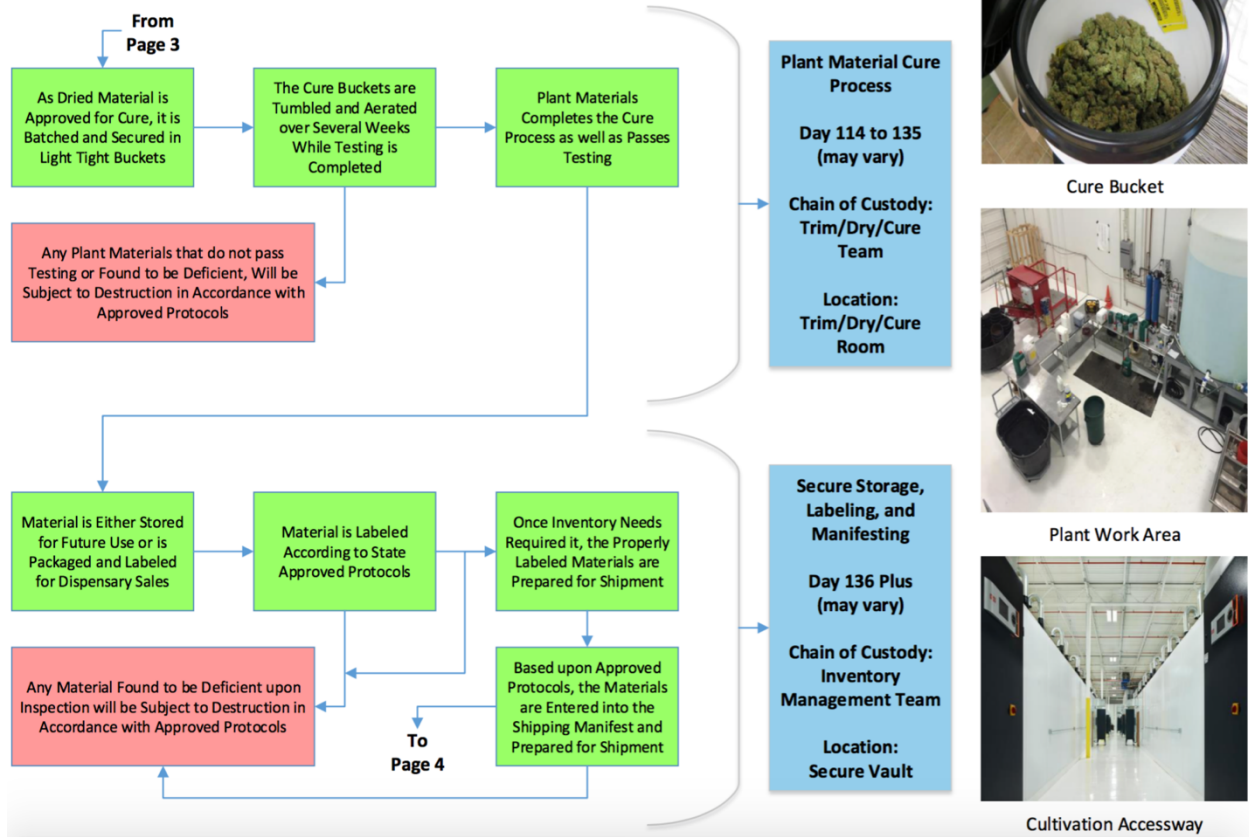


Mid Veg Plants

## Flower and Harvest/Trim/Dry Stage Material Flow



## Flower and Harvest/Trim/Dry/Packaging Stage Material Flow



## 10.5 – Product Mock-Ups



### Oral Capsules (GLM-CAP)

- Description: 30 MCT Cannabinoid blended Oral Liquid Capsules
- Formulation & Strength: 100mg total per container comprising 10 total doses at 10mg/capsule (SOP Section 14.001)
- Packaging: White HDPE Pharmaceutical Rounds with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-CAP	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
CAP01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
CAP02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
CAP03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
CAP04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.







#### Transdermal Ointment (GLM-TDO)

- Description: Transdermal Ointment infused with Cannabinoid rich CO2 extracted essential oil
- Formulation & Strength: 100 mg active Cannabinoids per 4 ounce container
- Packaging: 4 ounce White HDPE Rexam Pharmaceutical Ointment Jars with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-TDO	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TDO01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TDO02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TDO03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TDO04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.





#### Oral Use Syringe (GLM-OS)

- **Description:** Oral delivery syringe filled with Cannabinoid rich CO<sub>2</sub> extracted essential oil
- **Formulation & Strength:** 100mg active Cannabinoids per 5ml syringe comprising 10 total doses at 10mg per serving
- **Packaging:** 5 ml Oral Medication Syringe With Tip Cap with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations; US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-OS	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
OS01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
OS02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
OS03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
OS04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.





#### Sub-Lingual Oro-Mucosal Tincture (GLM-TINC)

- Description: 1oz Cannabinoid-Veg Glycerin Tincture
- Formulation & Strength: 100mg comprising 10 Serving at 10mg/1ml (SOP Section 13.001)
- Packaging: 1 ounce Droppers with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

#### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-TINC	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
TINC01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
TINC02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
TINC03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
TINC04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CannLabs, a licensed Colorado Medical Marijuana Testing Facility.





# [GLM-LOZ] Lozenges



Container is child-resistant.  
Keep Out of Reach of Children

#### Package Contents & Servings

Package Contains 12mg Cannabis Extract  
Serving Size: 1 Lozenge (5mg Cannabis Extract)  
Servings Per Container: 12

**Ingredients:** Natural cherry flavor extract,  
Cannabis extract with vegetable stearate  
as a binder, agave and stevia sweetener,  
Sodium-Free, Gluten-Free, Lactose-Free,  
Menthol-Free.

#### Nutritional Information Per Lozenge

Calories (0g); Fat (0g); Sodium (0g);  
Protein (0.04g); Carbohydrates (0g);  
Iron (0.06g)



**Greenleaf  
Medicine**  
For medical use only  
[GLM-LOZ01]  
Lozenges

**WARNING:** Not for resale or transfer to another person.  
Product Contains Cannabis Extract THC, 10mg per serving.  
This Product is Intended for Medical Marijuana  
Patients Only. Do not Drive or Operate Machinery,  
May Cause Euphoria, Dizziness or Disorientation.  
May take up to 1-2 hours for full effects.



Use by 00/00/00 PO Box 11617 Honolulu, HI 96828 License # Not for Resale

## Herbal Lozenges (GLM-LOZ)

- Description: Solid consumable medicated tablet that designed to be held in the mouth for slow oral dissolution.
- Formulation & Strength: 60 mg total per package comprising 12 total doses at 5 mg/ tablet
- Packaging: 10 count blister pack with necessary child-resistance while maintaining user-friendliness for adults and in compliance with CR/SF regulations: US16CFR17200.20 in the U.S.

### Cannabinoid Extracted Oil Concentration Per Weight (%)

GLM-LOZ	CBD-V	CBD-A	CBG	CBD	THC-V	CBN	THC	THC-A
LOZ01 (GEN1)	0.50%	3.04%	1.15%	33.02%	0.21%	0.57%	33.18%	0.14%
LOZ02 (GEN2)	0.001%	0.0025%	0.001%	13.02%	0.001%	0.001%	1.72%	0.001%
LOZ03 (GEN3)	0.001%	1.5%	0.91%	67.46%	0.001%	0.001%	6.38%	0.14%
LOZ04 (GEN4)	0.001%	0.0025%	0.001%	0.81%	0.001%	0.98%	67.11%	0.001%

\*Analytical data was provided by Denver Packaging Company, a licensed Colorado Medical Marijuana Infused Product Manufacturer (MIP#00362) and CanniLabs, a licensed Colorado Medical Marijuana Testing Facility.



GreenLeaf Medicine, LLC (GLM) has **a plan for secure disposal of marijuana and manufactured marijuana products.** Upon award of a Hawaii dispensary license and prior to handling of any marijuana, GLM shall apply to the Department of Public Safety Narcotics Enforcement Division (NED) and obtain a certificate to possess and handle marijuana and manufactured marijuana products. Ultimately, GLM will destroy unused, unsold, contaminated, expired, or mishandled marijuana or manufactured marijuana products by a means prescribed by the Department of Health (DOH) or the NED administrator in accordance with Hawaii Administrative Rules, Subchapter 3, Section 11-850-43, Disposal or Destruction. Upon approval by the NED, GLM will utilize written policies and procedures to be followed by all employees in regard to destruction and disposal of all unused, unsold, contaminated, expired, or mishandled marijuana and manufactured marijuana products as part of its standard operating procedures. (*Appendix 11.1 – Disposal of Manufactured Marijuana Product*).

To ensure the secure destruction and disposal of marijuana and manufactured marijuana products, GLM will implement a robust disposal protocol at our production center(s). These locations will serve as the primary point of destruction and disposal for waste products, typically in the form of stalk, stems, unrooted clones, dry and dead leaves, topped, pruned and de-fanned plant matter, generated from production and cultivation of marijuana, manufacturing of marijuana products and expired, contaminated, unsold or mishandled products from our retail dispensing locations (*Appendix 11.2 – Destruction and Disposal Process Flow & Photos*).

Any unused, unsold, expired, or mishandled marijuana and manufactured marijuana products returning to the production center from one of our retail dispensing locations shall be subject to the transportation protocols outlined in Section 329D-6, HRS. This includes, but not limited to tracking identification issued by the tracking system, the identity of the person

transporting the marijuana or manufactured marijuana products, and the make, model, and license number of the vehicle being used for transport.

Our destruction and disposal process will ensure that wasted marijuana by-products and inventory does not become available to unauthorized persons and will be documented as subtracted from inventory via our inventory tracking system.

All forthcoming destruction and disposal procedures will be performed by an approved full time staff member in the presence of a manager to ensure double verification of the process. In addition, security systems will monitor the process in its entirety, limiting the potential for diversion within the interior or exterior of the production center.

All wasted material will be deemed not only unusable, but also unrecognizable prior to leaving GLM facilities in accordance with the following procedures:

**Procedure 1:** GLM will assure proper waste inventory and maintain records of waste inventory through BioTrackTHC or BioTrackTHC compatible software;

- GLM will maintain accurate and comprehensive records regarding any waste material produced through the trimming or pruning of a medical marijuana plant prior to harvest, which must include weighing and documenting all waste. Records of waste produced prior to harvest will be maintained on the premises of GLM. Waste produced prior or subsequent to harvest will be disposed of in accordance with this policy and made unusable and unrecognizable.
- GLM will ensure its marijuana waste materials are identified, weighed and tracked while on the premises of GLM until they have been disposed. This includes the amount of waste produced by each plant at harvest and any by-products as a result of the cultivation, production, or manufacturing of marijuana.

- GLM will weigh all marijuana waste before it leaves the premises. The scale used to weigh medical marijuana waste will be licensed and calibrated in accordance with Hawaii regulations.
- GLM will maintain accurate and comprehensive records regarding waste material that accounts for, reconciles, and evidences all waste activity related to the disposal of medical marijuana and manufactured marijuana products and will be made available to the DOH or law enforcement upon request. All material will be accounted for and reconciled.

**Procedure 2:** Grinding and incorporating the cultivated marijuana waste products via an electronic grinder, chipper, shredder or mulcher; including unviable plants, plant stalks, plant stems, and plant fan leaves, with non-consumable, solid wastes listed below such that the resulting mixture is at least fifty percent non-marijuana waste including:

- Paper waste;
- Cardboard waste;
- Spent soil waste (dirt);
- Grease or other compostable oil waste;
- Bokashi, or other compost activators; or
- Other wastes approved by the NED that will render all medical marijuana and manufactured marijuana product waste unusable and unrecognizable.
- All wasted marijuana and manufactured products to be destroyed shall be mixed so that at least fifty percent of the total mixture is composed of items listed above and treated with an environmentally friendly sanitizing agent to substantially diminish the remaining tetrahydrocannabinol (THC) content.

**Procedure 3:** The resultant sanitized mixture will be placed within opaque and odor-limiting waste bags in order to limit the visibility of the finished mixture.

- GLM will dispose of these medical marijuana and manufactured marijuana product waste bags in a secured waste receptacle inside the production center.
- GLM will assure that any waste receptacle is secured inside the locked enclosure until it is scheduled to be picked up by a third-party authorized by the NED.

**Procedure 4:** GLM will maintain a contract with a Hawaii-licensed waste disposal company authorized by the DOH or NED in the handling of marijuana waste disposal.

- GLM will designate a manager to monitor the current contract to be sure it is current and on record for inspection by the DOH as necessary.
- GLM manager will meet the third-party waste disposal agent and validate their authority to remove marijuana waste that has been rendered unusable and unrecognizable.
- GLM manager will document the waste pick up in the inventory tracking system.
- Records will be maintained on premise for a minimum of six years.
- GLM will maintain an independent log including a certificate of disposal from the certified disposal company of such disposal that will be kept at the production center for inspection by DOH officials or law enforcement as required.

## **Appendix**

### **11.1 – Disposal of Manufactured Marijuana Product**

If it is determined that a product or substance at any stage within the manufacturing process containing marijuana does not meet quality standards, is outdated, damaged, deteriorated, misbranded, adulterated or whose container or package has been improperly or accidentally opened, it may be determined to be disposed of in accordance with Hawaii Administrative Rules, Subchapter 3, Section 11-850-43, Disposal or Destruction utilizing GreenLeaf Medicine, LLC (GLM) waste-disposal policies and procedures and regulatory requirements.

The SOP will include:

1. Segregation - Location within facility designated for secured waste storage. Access is limited to authorized personnel.
2. Disposal by authorized personnel - Supervisory approval is required on all medical-cannabis waste and products designated for disposal. These segregated inventories are clearly identified with a label that includes signature of supervisory personnel.
3. Render substance unusable - Clear description of waste-handling procedures including protocols for rendering substance unusable prior to disposal. This includes mixing waste with non-consumable solid-wastes such that the resulting mixture is at least 50-percent non-cannabis waste.
4. Procedures performed in view of video surveillance security equipment with multiple people involved to provide a witness.
5. Documentation of disposal in inventory control system - Supervisory sign-off will include certifying waste has been entered into inventory-control.



6. Location of disposal - Identification of solid waste site and disposal facility.
7. Documentation will be retained for 6 years.

GLM will dispose of marijuana waste in a secured waste receptacle in possession and control of the GLM facility within the designated waste disposal area. Only designated employees will have the access level authority to destroy product and ensure the destroyed weight and the reason for destruction are recorded in Inventory Tracking Software. Inventory Tracking Software can generate reports on the number and/or weight of destroyed material at any point in the process. Every action will be recorded with a date/timestamp and the username of the employee performing the action.

Marijuana and marijuana infused product waste will be made unusable and unrecognizable prior to leaving the licensed premises. Marijuana and marijuana infused product waste will be rendered unusable and unrecognizable through grinding and incorporating the marijuana waste with non-consumable, solid wastes listed below such that the resulting mixture is at least 50 percent non-cannabis waste:

1. Paper waste;
2. Plastic waste;
3. Cardboard waste;
4. Food waste;
5. Grease or other compostable oil waste;
6. Bokashi, or other compost activators;
7. Other wastes approved by the Department of Health (DOH) that will render the Marijuana waste unusable and unrecognizable as marijuana; and
8. Soil.



GLM will utilize inventory tracking software to ensure its post-harvest waste materials are identified, weighed and tracked until disposed of.

All cannabis waste must be weighed before leaving any licensed premises. GLM will maintain accurate and comprehensive records regarding waste material that accounts for, reconciles, and evidences all waste activity related to the disposal of cannabis. After the marijuana and marijuana infused product waste is made unusable and unrecognizable, then the rendered waste shall be:

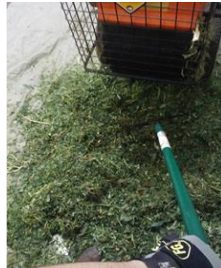
1. Disposed of at a solid waste site and disposal facility that has a Certificate of Designation from the DOH;
2. Deposited at a compost facility that has a Certificate of Designation from the DOH; or
3. Composted on-site at a facility owned by the generator of the waste and operated in compliance with the Regulations Pertaining to Solid Waste Sites and Facilities in the DOH.





## 11.2 – Destruction and Disposal Process Flow & Photos (File Photo Similar)

### Waste, Recalled, or Deficient Plant Materials Destruction Protocol



Waste Materials Generated by the Cultivation Operations are Gathered to a Central Secure Location (Usually very low THC basis Stalks/Stems and or Failed Plant Material)

Waste Materials are then Staged to be Ground up to a Fine Basis and Afterwards Mixed with an Approved Media Element to Facilitate Material Anonymity

Waste Materials are then Sprayed with an Approved Sanitizing Agent Prior to Mixing with an Approved Media Prior to Disposal



The Generally Unrecognizable as a Marijuana Materials are then Placed into Odor Resistant Bags Where it is Stored Until Pickup by a Suitable Refuse Materials Contractor or

The Generally Unrecognizable as a Marijuana Materials are then Placed into a Secure Lockable Waste Receptacle Where it is Stored Until Pickup by a Suitable Refuse Materials Contractor

### 11.3 – HDS LOI



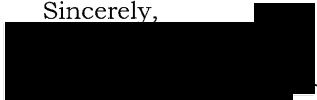
To: Green Leaf Medicine,

This is a letter of interest of intent from Honolulu Disposal Service as a prospective vendor of secure disposal services to be utilized in the medical marijuana industry in the State of Hawaii, Island of Oahu.

Founded in 1967 Honolulu Disposal Services is the largest waste hauling and recycling operation in Hawaii. As a full-service organization, Honolulu Disposal Services employs hundreds of people and operates a modern fleet of refuse, recycling and service vehicles.

We are pleased to support Green Leaf Medicine's plans.

Sincerely,



Stanley Hirata  
Director of Sales

1169 Mikole Street, Honolulu, HI 96819 • (808) 845-7581 • (808) 841-3996: Fax  
*Division of Oahu Waste Services, Inc.*



GreenLeaf Medicine, LLC (GLM), will **comply with Hawaii Administrative Rules, Chapter 11-850-75, concerning quality control, health, safety and sanitation standards as well as Sections 329D-8, 329D-10, and 329D-11, HRS.** The five principles of product safety are quality assurance, environmental control, integrated pest management, cleaning and sanitation, and rigorous laboratory testing for potency, microbials, residual solvents, heavy metals, toxins, molds and powdery mildews. As required within Chapter 11-850-71, Product and Product Standards, GLM will establish and maintain a written policy and procedure that includes:

1. Safe and appropriate use of equipment; (*Appendix 2*)
2. Effective training and monitoring of employees and subcontractors who participate in the production of marijuana and manufactured marijuana products; (*Appendix 2*)
3. Adequate protocols for laboratory testing of marijuana; (*Appendix 9*)
4. Safe and appropriate storage and disposal or destruction of marijuana at all stages of production and sale, ensuring no diversion to unauthorized persons. (*Appendix 11*)
5. Manufacturing process validation procedures. (*Appendix 2.4.5*)
6. Storage of chemicals and related Material Safety Data Sheets (MSDS)

Quality control and assurance is necessary at every level of plant husbandry from propagation within a production center to being sold in the dispensary. At every stage and in every work area there will be a designated rejection container for materials that are deemed below quality standards and marked for destruction. The cultivation team will be our first line of defense with their daily “scouting” duties. With clone propagation and management, the cloner is looking daily for molds, mildew or other pathogenic afflictions. Through the plant life-cycle from early, mid and late vegetative stage and on through flowering, the cultivation staff will always have eyes on the plant. While performing the various tasks of feeding, transplanting,

topping, de-fanning, pruning, and netting, human eyes provide the best initial source of identifying afflictions. Through daily scouting, cultivators will actively look for molds, mildews and other pathogenic outbreaks in order to be proactive with regard to the medical marijuana crop, instead of reactive. As the plants are harvested and transferred to trim, dry and cure, each department is actively looking for afflictions to the plants that may have escaped the notice of the cultivation team. Should an issue be discovered, such as powdery mildew, the plant will be segregated, contained and reported to the cultivation team who will, through BioTrackTHC compatible software, locate the flower room from which the plant came and look for any other issues in that room to treat and quarantine before it may spread throughout the production center.

Within the production center, GLM will maintain complete control over all environments containing marijuana or manufactured marijuana products. Controlling the environment is critical to the overall health of the facility. Deploying Stulz Air Technology HVAC Systems, or a similar cleanroom atmospheric control equipment, will aid in the creation of a nearly aseptic, exceptionally clean environment through electrostatic, pre-static and UV-static filtration. These systems will provide all elements necessary to successfully creating and managing a controlled environment, including human management of temperature, humidity, and carbon dioxide levels.

Through adoption of a proper Integrated Pest Management (IPM) protocol, GLM can mitigate or eliminate several potential production center issues (*Appendix 12.1 - Integrated Pest Management and Environmental Monitoring*). IPM will only utilize organic, oil-based treatments that contain no harsh toxins that could potentially harm the cultivation team or ultimately a qualifying patient. Actively scouting for issues is by far the most important part of IPM. Scouting involves having trained human eyes on the plants, actively looking for pests, molds or other afflictions and quickly treating the plants.

Cleaning and sanitation of the facility and all equipment is another critical element with regard to product safety and maintaining a safe work environment both in the production center as well as dispensing facility (see Appendix 12.2 - Production Center Cleaning and Sanitation Practices). Wash stations, lockers and work clothing will be provided. All cultivators, at the start of work, will change clothing. Clothing will be changed at least twice daily and more often if it is critical to enter multiple rooms during the work day, in order to prevent cross-contamination within the production center. Daily cleaning checklist will be used by staff to ensure compliance with regard to Chapter 11-850-75, quality control, health, safety, and sanitation standards.

All necessary precautions must be taken during the packaging and storage of marijuana to prevent contamination of marijuana and manufactured marijuana products. These production center safeguards include, but are not limited to: cleaning and sanitizing all equipment, containers, and other contact surfaces as necessary; controlling airborne contamination; using sanitary handling procedures; washing or cleaning containers and packaging components that contain soil or other contaminants; product containers and closures will be clean and free from particulate matter. Cleaning of all tables, wall, floors and fixtures in each room as well as the cleaning of any tables prior to repopulation of marijuana plant material will be critical. Ninety percent isopropyl alcohol and environmentally friendly sanitary cleaning agents will be utilized for these purposes. In order to prevent cross-contamination, no cultivator will enter one room from another without a change of clothes and an alcohol spray-down.

Rigorous health, safety, and sanitation standards will also apply to staff or any other persons who may come in contact with medical marijuana and medical marijuana products while at the production center or retail dispensing facility. GLM will ensure all licensed facilities are well-equipped to provide sanitary working conditions for staff, addressing all requirements set

forth within Chapter 11-850-75. This includes but is not limited to; excluding contact from staff and persons with illness, open lesion or wounds, or any other source of contamination, providing ample hand washing facilities and hand cleaning preparations, and requiring all staff to conform to hygienic best practices while on duty. Additionally, no animals will be permitted within the facilities, except for service animals in accordance with section 34702.5, HRS.

A clean and sterile facility is a healthy facility. All floors, walls, and ceilings will be adequately cleaned and kept sanitary. Adequate screening will be installed to protect against the entry of pests and other pathogens. All litter, waste, and rubbish will be removed and disposed of to minimize the development of odor or attract pests or vermin. Adequate lighting will be installed within all areas where marijuana is sold or stored, and where equipment or utensils are cleaned. GLM plans to maintain any environmentally friendly cleaning compounds, sanitizing agents, and bait traps in a manner that is in accordance with local, state, and federal law. In addition, GLM will maintain an MSDS for every hazardous chemical on premise and make them available to employees as part of our Right-to-Know provisions – which says employees have the right to know about the chemicals to which they are exposed. The other key responsibilities we have are:

- Maintaining a hazard communication program detailing the plans in place for the safe handling of chemicals;
- Maintaining a written chemical inventory of every hazard chemical in the facility to which employees are exposed;
- Maintaining proper labels and warning signs associated with said chemicals;
- Training employees on chemical hazards and necessary precautions.

Retail dispensary staff will be required to use nitrile gloves whenever in contact with medical marijuana, to ensure there is no contamination between staff and the medical marijuana or manufactured marijuana products (*Appendix 12.3 - Retail Dispensing Location Cleaning and Sanitation Practices*). GLM will ensure dispensary agents maintain proper cleaning and equipment maintenance logs in a secured file to be readily available to the Department of Health (DOH) or law enforcement for inspection as necessary. A cleaning checklist is used to ensure no essential cleaning and sanitation tasks are overlooked. GLM will generate maintenance logs to be used within all licensed facilities and kept on file for inspection.

In order to assure product safety in regard to laboratory testing GLM shall maintain testable product samples in a secure tamper-proof manner for verification testing as directed by the DOH. GLM will conduct or contract for certified laboratory testing and analysis on marijuana and manufactured marijuana products pursuant to Chapter 11-850 and sections 329D-7 and 329D-8, HRS of a statistically representative sample from each batch of marijuana or manufactured marijuana product according to standard operating procedures prepared by the laboratory and approved by the DOH. The dispensary licensee shall ensure and verify that each sample is tested and analyzed for each of the items laid out in subsection (c) of Chapter 11-850-85. Internal testing for chemical, microbiological, or other testing, as necessary to augment independent third party testing will help in the effort to provide safety to all involved parties (*Appendix 9.1 – Microbial Testing Overview*).

As an overarching precaution in the event a qualifying patient experiences any unwanted side-effect or adverse effects, GLM will have a product alert and recall protocol in place (*Appendix 12.4 - Marijuana & Manufactured Marijuana Product Alert & Recall*).

## **Appendix 12**

### **12.1 - Integrated Pest Management and Environmental Monitoring**

Regular environmental monitoring (EM) ensures the growing environment remains optimized, and helps detect potential problems early on to allow correction before they become serious or damaging. A history of EM data exposes causal factors related to environmental, disease, or pest problems. It can indicate if the environment control systems (such as the HVAC) have sufficient capacity to control the internal environment even when significant inter-seasonal fluctuations are happening in the outside environment. Regular data collection also reveals the effect of an environmental adjustment on the plants.

A critical element to EM is “scouting” for pests and pathogens. Scouting is by far the most critical element to Integrated Pest Management (IPM). Scouting is the process of actively inspecting each plant for afflictions or other alerts. During the vegetative stage of the plant lifecycle, including mother plants, daily watch for any alerts during cloning, watering, topping and transporting. Scouting by cultivation staff allows a production center to operate proactively versus reactively in regard to plant afflictions including pests and pathogens.

As with any other intensely cultivated and selectively bred agricultural crop, medical marijuana is beset by a number of pathologies that require immediate intervention to avoid serious or catastrophic crop losses, and the possible loss of valuable or rare genetic strains. Some marijuana strains have spent their entire existence in completely artificial environments, and after several decades there have been significant selective pressures on pests and disease organisms to adapt. The consequences of this are now being seen in the form of highly resistant types of red spider mites and powdery mildew fungus.

A modern integrated holistic approach to prevention and control of plant pathologies is





Integrated Pest Management (IPM). IPM programs combine cultural and environmental controls, regular EM and disease scouting, application of organic pesticides and fungicides, and application of treatment for established diseases and high pressure situations. The focus of an IPM program will largely depend on the options that are realistically available to the cultivator.

Resistance buildup can be avoided or delayed with proper treatment rotation, and residual levels in the product will be at (or preferably below) the EPA's residuals limits for hops and food crops. Hops is a reasonable parallel due to its close relation to the marijuana plant. All incoming plants must be quarantined for at least two weeks to ensure any diseases or pests they may have cannot spread into the production center. Quarantined areas must be under strict contamination control and monitored by trained staff.

### **Integrated Pest Management – Mother Plants and the Vegetative Phase**

Scouting is the most important part of IPM. During scouting, a cultivator is looking for any potential afflictions such as mold, powdery mildew, bug infestations or other pathogenic outbreaks. Scouting should be performed during cloning, watering, feeding, topping, transplanting and shuffling. The key is to identify a plant issue before it become an epidemic within the production facility. The culture that should be engendered is that of being proactive instead of reactive.

GreenLeaf Medicine, LLC (GLM) will establish the use of safe, organic, oil-based treatments. Chemicals and other heavy pesticides should never be used as they pose a danger to both cultivators as well as the end medical marijuana patients. The FDA has not made a position on IPM with regard to medical marijuana as it is considered a schedule 1 controlled substance at the federal level. As such, only State approved organic oil-based treatments will be implemented.

## **12.2 - Production Center Cleaning and Sanitation Practices**



Equipment that will typically come in contact with medical marijuana plants are pots, vegetative racks, transplanting tables, wheeled transport racks, flowering systems, trays, machine trimmer, scissors, drying racks and cure buckets. All these items need to be properly sterilized and disinfected prior to reuse. This is important as much to prevent the contamination of the equipment as it is for plants to not get contaminated through contact. Pots are reused once a plant has been harvested and removed from the pot. The old grow medium is removed from the pot and used to mix with discarded plant matter that is then sterilized as part of the destruction protocol. It must be rendered unusable and unrecognizable. The pot will be cleaned and sanitized to remove the salt-based nutrient sediments that form at the bottom of the pot through several months of nutrient feedings.

Vegetative racks house plants for eight to ten weeks and will have contamination built up through feeding runoff and pesticide, miticide, and fungicide management. Once the plants on the vegetative racks have moved on from this phase of their life-cycle to the flowering phase, these racks will have to be cleaned and sterilized. The transplanting tables that are used for repotting from a clone dome to a 1-gallon to a 5-gallon pot will likewise require cleaning and disinfecting.

When a flowering system is harvested, and prior to repopulation, the tables will need to be rigorously cleaned and disinfected. All screen of green (ScrOG) material, trellis netting, bell wire and plant matter will need to be removed from the harvest. Transporting racks that port the plants from late vegetative stage to a flowering system will need to be cleaned between transport.

All scissors that are used to hand trim the plant into its basic byproducts will need to be disinfected with 90% isopropyl alcohol after trimming and before starting a new plant trim. The trimmed product goes into large aluminum trays that will then be taken to the dry/cure



department to dry for a week to 10 days. Once the trimmings have fully dried and have been stored or packaged, the aluminum trays can be reused once they have been thoroughly cleaned and disinfected. The machine trimmer will need to be cleaned each day after use. It is crucial that plants with powdery mold or mildew never go through the machine. Sticky resins will need to be removed and thoroughly sanitized prior to running plants through the next day.

The wire hanging racks will also be cleaned after the removal of fully dried flower and prior to repopulation. All cure buckets are used for the batching and curing of product. The product will cure in a bucket anywhere from two weeks to two months. After product is done curing and prior to repopulation, the buckets must be cleaned and disinfected. Sticky resins can form on the inside of the container and must be removed. A record of all cleaning should be maintained daily and weekly and should be held for six years.

GLM will ensure cultivation staff maintain proper cleaning and equipment maintenance logs in a secured file to be readily available to the Department of Health for inspection as necessary. Everything in the facility needs to be cleaned with a State-approved sanitizing agent, including but not limited to: tables, racks, floors, walls, lighting hoods, fans, trays, buckets, pots, HVAC equipment, glass, and water system equipment to mitigate the risk of crop loss due to pests, molds, mildews and other airborne contaminants. Some larger equipment and mechanical units will require cleaning on a monthly, quarterly, biannual, or annual basis.

### **12.3 - Retail Dispensing Location Cleaning and Sanitation Practices**

As part of the standard operating procedure, GLM will maintain the highest standard of cleanliness of any building or equipment used to store or display medical cannabis. A clean and sterile facility is a healthy facility. Floors will be swept and mopped every day and a janitorial service or in-house maintenance team will be called in weekly for thorough vacuuming and



sanitation. Soap, water, rubbing alcohol and other sanitizing solutions will be used when cleaning. The person cleaning will also wear clean clothing, protective gloves and goggles and will be required to spray down with an alcohol spray solution prior to entering rooms in which medical marijuana is stored.

The equipment that will typically come in contact with medical marijuana and manufactured marijuana products within a retail dispensing facility are, but not limited to: display jars, chopsticks/tongs, scales, weighing trays, and holding containers. All of these items need to be properly sterilized and disinfected prior to reuse. This is important as much to prevent the contamination of the equipment as it is for the medical marijuana to not get contaminated through contact. Larger pieces of equipment and furniture, like display cases and furniture within the patient waiting area, will also be cleaned regularly by a professional cleaning service to ensure the utmost sanitation within the dispensary.

Retail dispensary staff will be required to use nitrile gloves whenever in contact with medical marijuana and manufactured marijuana products to ensure there is no contamination.

#### **12.4 - Marijuana and Manufactured Marijuana Product Alert & Recall**

GLM has drafted a marijuana and manufactured marijuana product alert and recall protocol in the event of a serious adverse event experienced by a qualifying patient.

**Stage 1:** Upon serving notice to a staff member of the retail dispensing facility by a qualified patient or authorized caregiver of a particular and specific negative effect (ex: persistent debilitating headaches) thought to be the result of ingestion of an approved marijuana or manufactured marijuana product, the Dispensary Manager shall note the effect in a common



log format (logs to be maintained and shared by the Dispensary Manager and the General Manager) as well as the batch and other control information related to the suspect product.

**Stage 2:** Upon the second notice to a member of the retail dispensing facility by a qualified patient or authorized caregiver of a particular and specific negative effect (ex: persistent debilitating headaches) the Dispensary Manager shall note the reoccurrence of the same effect in log format, immediately notify the General Manager of the second similar occurrence, and ensure that the batch (or lot) present in the dispensary is quarantined in a separate secured location in a secured area. The General Manager (or in the absence of access to the General Manager, an approved member of the Management Team) shall immediately notify the supplied network of General Managers, Dispensary Managers, and/or Clinical Directors to quarantine the suspect batches (or lots) and shall cause a random sampling of two products within the suspect batch (or lot) to be submitted for immediate (expedited if available) third party laboratory testing for contamination of any kind.

If the testing results for both samples come back with no contamination indicators, the products under quarantine shall remain in quarantine for an additional five business days to insure there are no further reports of similar effects experienced by other qualified patients or authorized caregivers. Once the five business day period has passed with no similar reports, the product may be moved back into active inventory provided it can still meet the shelf life requirements mandated by the State guidelines.

Should the test result for either sample come back showing a positive test result for contaminants then recall procedures would begin immediately. Through the use of the POS tracking system all qualified patients and authorized caregivers would be identified and all means necessary to contact said patients and authorized caregivers would be made via email,



texts, and voicemail to ensure the return of the recalled product until all such products are returned or verified as having been consumed.

**Stage 3:** Upon serving notice to a member of the retail dispensing facility by a qualified patient or authorized caregiver of a third particular and specific negative effect (ex: persistent debilitating headaches) thought to be the result of ingestion of an approved marijuana or manufactured marijuana product, the Dispensary Manager shall note the effect in a common log format, immediately notify the General Manager of the third similar occurrence, and ensure that the batch (or lot) present in the dispensary is quarantined in a separate secured location. Upon this third incident, all products within the reference batches (or lots) shall be subject to an immediate recall notice to all qualified patients and authorized caregivers through use of the POS tracking system database to identify the aforementioned patients and authorized caregivers and will continue to follow up via email, texts, and voicemail to ensure the return of the recalled product until all such products are returned or verified as having been consumed.

*NOTE: Our seed to sale software provider, BioTrackTHC, has specifically designed elements within its software to assist as well as manage the overall recall process. GLM will be relying upon these sales records for management of the process. (Please see the BioTrackTHC State referenced compliance elements for further delineation).*

**Stage 4:** Upon final confirmation of a defective batch the contained products will be destroyed in accordance with disposal procedures.



There is [REDACTED] amongst any of the ownership team for GreenLeaf Medicine, LLC (GLM). GLM is a new business organized on October 14, 2016 however, the six members of GLM have a combined 154 years of successful entrepreneurial business experience. They have been hands-on owners/partners in 23 businesses. Of those companies, four have been sold and two where closed. There are still 18 businesses in operation today. [REDACTED]

[REDACTED]