

<b>Title</b>	Pruning Procedure	<b>Document ID</b>	AG-025	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Vegetative/Flowering		Ken Ota, CEO		01/01/2016	



<b>Title</b>	Pruning Procedure	<b>Document ID</b>	AG-025	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Vegetative/Flowering		Ken Ota, CEO		01/01/2016	

- 4. Remove dry/dead leaves.



- 5. View the collective canopy of the plants being pruned. Consideration should be given to maintaining a uniform canopy.



- 6. Trimmed green waste should be collected when the pruning for the entire room is complete.

<b>Title</b>	Pruning Procedure	<b>Document ID</b>	AG-025	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Vegetative/Flowering		Ken Ota, CEO		01/01/2016	



- Green waste should be recorded and disposed of according to the Green Waste Disposal SOP.



## 6. Prerequisites

Sharp/clean spring loaded scissors, vinyl gloves, green waste bucket, rolling stool, eye

<b>Title</b>	Pruning Procedure	<b>Document ID</b>	AG-025	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Vegetative/Flowering		Ken Ota, CEO		01/01/2016	

protection.

## 7. References

<b>Title</b>
MMMD Operations Manual

## 8. Revision History

Rev.	Revision Date	Modified by	Description
01	12/30/15	Gina Crosley-Corcoran	Added ExpressTrain Module

<b>Title</b>	Flushing Procedure	<b>Document ID</b>	AG-020	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Flowering		Ken Ota, CEO		01/01/2016	

### 1. Purpose/Objective

The purpose of this document is to accurately describe how to remove any remaining fertilizers used in the cultivation process from the final medical cannabis plant material.

### 2. Scope

This procedure applies to the last two weeks of the cannabis plant life cycle.

### 3. Background

During the late flowering stage all nutrients shall be leached from the growing medium so each plant will be forced to use all remaining nutrients within its cellular tissue and the final product will be clean. Flushing will purge all remaining nutrients from the substrate by forcing fresh water through the plant's root system.

### 4. Responsibilities

The flowering zone manager is responsible for flushing plants.

<b>Title</b>	Flushing Procedure	<b>Document ID</b>	AG-020	<b>Rev.</b>	01
<b>Function</b>	Flowering	<b>Approved By</b>	Ken Ota, CEO	<b>Effective Date</b>	01/01/2016

## 5. Flushing Procedure

1. Determine the plants to be flushed a minimum of 14 days prior to harvest.



2. Ensure a sufficient water reserve in the reservoirs prior to beginning by calculating the gallons of substrate per plant times 2-3 gallons of water. (For example, a 5-gallon pot will require 10-15 gallons of fresh, aerated water for flushing.)

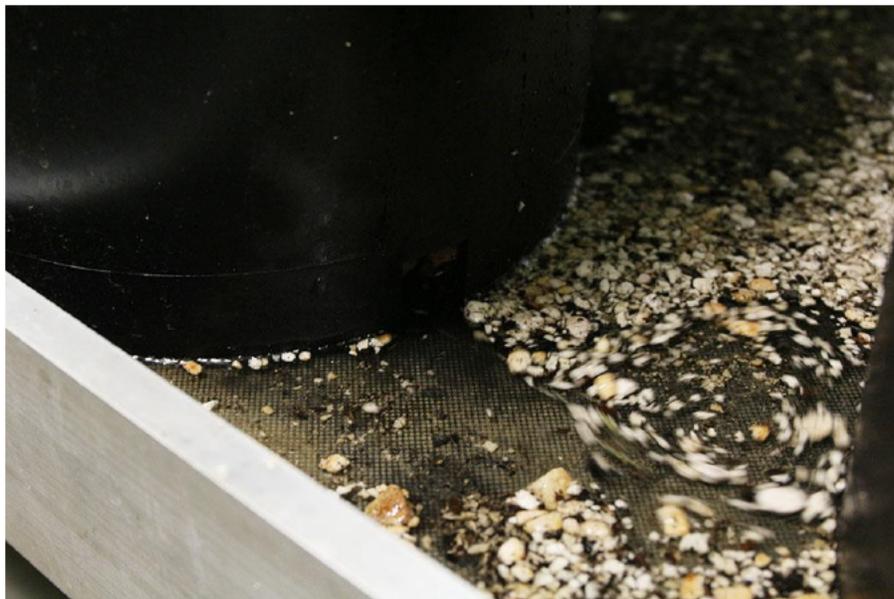


<b>Title</b>	Flushing Procedure	<b>Document ID</b>	AG-020	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Flowering		Ken Ota, CEO		01/01/2016	

- Water each plant at its normal watering schedule with an abundance of fresh water.



- Ensure that sufficient run-off is attained during each flushing session in order to strip away all remaining nutrients.



## 6. Prerequisites

<b>Title</b>	Flushing Procedure	<b>Document ID</b>	AG-020	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Flowering		Ken Ota, CEO		01/01/2016	

Filtered, aerated (living) water, hose.

## 7. References

<b>Title</b>
MMMD Operations Manual

## 8. Revision History

Rev.	Revision Date	Modified by	Description
01	1/11/2016	Gina Crosley-Corcoran	Added ExpressTrain Module

<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

### 1. Purpose/Objective

The purpose of this procedure is to harvest medical cannabis in order to ensure proper yield.

### 2. Scope

This procedure applies to the harvesting of medical cannabis plants.

### 3. Background

Harvest, drying, and curing must all be handled with the utmost care to prevent contamination from mold and foreign substances. When a plant is harvested at the manufacturing facility, it is carefully placed in a clean carrying vessel to be moved to the laboratory grade trimming and processing room.

### 4. Responsibilities

The flowering zone manager will work with the cultivation manager to determine a timeline for harvest for each batch within the flowering zone. Once a batch has a confirmed harvest date, the processing manager shall initiate the harvest of that particular batch. The processing manager shall ensure that upon harvest each batch is scanned, weighed, transferred, and the data recorded.

<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

**5. Harvesting Cannabis Procedure**

1. Scan plant for harvest.



2. Cut the plant at the base as close to the soil as possible.



<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

3. Weigh the entire plant and record information on the harvest log and data system.



4. Place plant on the stainless steel table. Stainless steel table should be free from debris and wiped with alcohol.



<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

5. Repeat the process until the table is full.

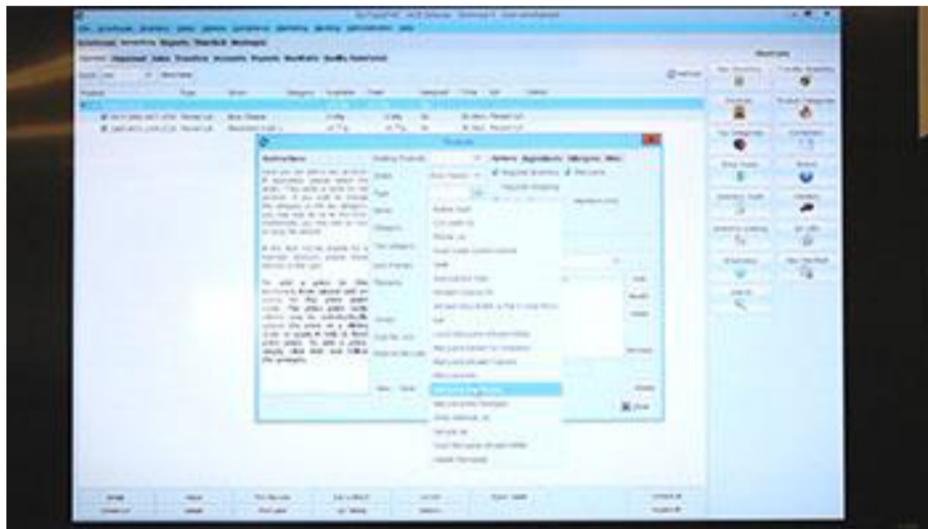


6. Transfer the product to the processing room and record new location and all other pertinent information.



<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

7. Record total batch weight on log sheet and Biotrack.



8. Immediately remove fan leaves and begin trimming and drying process.



**6. Prerequisites**

Harvest sheers, vinyl gloves, large capacity scale, harvest table (stainless steel table with casters).

<b>Title</b>	Harvesting Cannabis Procedure	<b>Document ID</b>	AG-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

## 7. References

<b>Title</b>
MMMD Cultivation Operations Manual

## 8. Revision History

Rev.	Revision Date	Modified by	Description
01	12/23/15	Gina Crosley-Corcoran	Added ExpressTrain Module

<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

**1. Purpose/Objective**

To purpose of this procedure is to accurately describe the post-harvest wet trimming process.

**2. Scope**

This procedure applies to the harvesting process.

**3. Background**

Immediately after harvest all products from a selected batch are processed for drying. Prior to being trimmed and cured, the processing team will segregate all harvested cannabis flower into their designated pre-determined homogenized batches. All segregated batches will be maintained in a secure, climate-controlled location suitable for the prevention of product contamination or efficacy loss. Each batch will be clearly labeled and tagged and its exact location will be clearly defined and tracked at all times.

**4. Responsibilities**

The processing manager will ensure all trimming procedures are followed each batch remains segregated to avoid cross contamination and in order to maintain strict inventory control. The processing manager will ensure that adequate workflow is maintained.

<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>	Harvest	<b>Approved By</b>	Ken Ota, CEO	<b>Effective Date</b>	01/01/2016

**5. Wet Trimming**

1. Designate staff members to trim the given batch.



2. Cut the plant into individual stems no longer than 18 inch sections.



<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

3. Remove all fan leaves and place in green waste containers.



4. Remove sugar trim with sharp/clean scissors, and place all sugar trim in the proper sugar trim drying section to be prepared for the extraction process. Place the stem between two fingers and slowly spin each flower toward the scissors to remove fan leaf.



<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>	<b>Approved By</b>		<b>Effective Date</b>		
Harvest	Ken Ota, CEO		01/01/2016		

5. Ensure each cannabis pistillate inflorescence has all yellow or brown material removed.



6. Hang each trimmed stem from a hanger.



<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

- Once the batch is trimmed, move each hanger into the designated drying room for the particular batch. Scan and record data.



- Dispose of gloves before leaving the trimming room.



**6. Prerequisites**

<b>Title</b>	Wet Trimming Procedure	<b>Document ID</b>	AG-006	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Harvest		Ken Ota, CEO		01/01/2016	

Sharp/clean spring loaded scissors, vinyl gloves, stainless steel working tables, rubbing alcohol, hanging rack, hangers.

### 7. References

<b>Title</b>
MMMD Operations Manual

### 8. Revision History

Rev.	Revision Date	Modified by	Description
01	01/01/2016	Gina Crosley-Corcoran, MPH	Formatting

<b>Title</b>	Dry Trimming	<b>Document ID</b>	AG-055	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
	Processing		Ken Ota, CEO		1/2/2016

**1. Purpose/Objective**

This Procedure will accurately describe the post-harvest dry trimming process.

**2. Scope**

This procedure will take place in the Trimming Room.

**3. Background**

Immediately after harvest all products from a selected batch are processed for drying. Prior to being trimmed and cured, the processing team will segregate all harvested cannabis flower into their designated pre-determined homogenized batches.

All segregated batches will be maintained in a secure, climate-controlled location suitable for the prevention of product contamination or efficacy loss. Each batch will be clearly labeled and tagged with tag and its exact location will be clearly defined and tracked at all times.

**4. Responsibilities**

The Processing Manager will ensure all trimming procedures are followed and that each batch remains segregated to avoid cross contamination and in order to maintain strict inventory control.

**5. Procedure**

STEP 1: Ensure adequate staff members are available to trim the given batch.

STEP 2: Ensure that all work surfaces and tools are clean and sanitized.

STEP 2: Hangers containing dried flowers still attached to stems should be pulled from the drying room using the Rolling Hanger Cart as instructed by the Processing Manager who has moved those those tags in BioTrack to reflect their new location.

STEP 3: Select a Flower Stem from the hanger and move it to the Screen Table.

STEP 4: Remove individual Flowers from the stem, placing the stems in the Stem Storage Bucket.

STEP 5: Trim fan leaves and Larf material from each individual flower.

STEP 6: Trim discolored flowers.

<b>Title</b>	Dry Trimming	<b>Document ID</b>	AG-055	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Processing		Ken Ota, CEO		1/2/2016	

STEP 7: After processing 3 to 4 stems, trimmings and trimmed flowers should be placed in the appropriate Storage Buckets for weighing and tracking in BioTrack.

STEP 8: Once the designated batch has been trimmed, the Processing Manager will ensure that all product is collected, weighed and recorded in BioTrack.

**6. Prerequisites**

Sharp/clean spring loaded scissors, vinyl gloves, stainless steel working tables, rubbing alcohol, hanging rack, hangers, Eye protection, Screen Tables.

**7. References**

Title of Document
Cultivation Operations Manual
Maui Medical Marijuana Dispensary, LLC Employee Manual
Retail Dispensing Operations Manual

**8. Revision History**

Rev.	Revision Date	Modified by	Reason for Modification
01	1/9/2016	Gina Crosley-Corcoran, MPH	Added new format.

Maui  
County

**MAUI MEDICAL**  
MARIJUANA DISPENSARY LLC

Production & Manufacturing Facility  
Operations Manual

---

# Table of Contents

---

<b>STAFF SCHEDULE .....</b>	<b>13</b>
<b>ORGANIZATION CHART .....</b>	<b>15</b>
<b>JOB DESCRIPTIONS .....</b>	<b>16</b>
<i>DIRECTOR OF PRODUCTION.....</i>	16
<i>DIRECTOR OF MANUFACTURING .....</i>	16
<i>CULTIVATION MANAGER.....</i>	16
<i>VEGETATION AGENT .....</i>	17
<i>CLONE AGENT.....</i>	17
<i>FLOWERING ZONE AGENT .....</i>	17
<i>PROCESSING MANAGER .....</i>	17
<i>PROCESSING AGENTS.....</i>	18
<i>PACKAGING TEAM LEAD.....</i>	18
<i>PACKAGING AGENT .....</i>	18
<i>CANNABIS-INFUSED PRODUCTS MANAGER.....</i>	19
<b>DISPENSARY EMPLOYEE SERVICES .....</b>	<b>20</b>
<i>PAYCHEX SERVICES .....</i>	20
• <i>Payroll Services.....</i>	20
• <i>Employee Handbook .....</i>	20
• <i>Employee Assistance Program (EAP) .....</i>	20
• <i>Applicant Tracking System (ATS).....</i>	20
• <i>Safety Plan .....</i>	21
<i>TRAINING.....</i>	21
<i>RECORD KEEPING .....</i>	21
• <i>Inventory Tracking.....</i>	21
• <i>Dispensing Limitations.....</i>	22
• <i>Financial Records.....</i>	22
• <i>Entry and Exit Logs.....</i>	22
• <i>Employee Records .....</i>	22
<i>EMPLOYEE HANDBOOK .....</i>	23
<i>STAFF MEETINGS.....</i>	24
• <i>Team Meetings.....</i>	24
• <i>Shift Meetings.....</i>	24
<b>ROOM AREAS &amp; DESCRIPTIONS .....</b>	<b>25</b>
<i>SECURED ENTRY.....</i>	25
<i>RECEIVING AREAS.....</i>	25

NUTRIENT STORAGE AREA .....	25
PROPAGATION AREA .....	25
VEGETATIVE AREAS.....	25
FLOWERING AREAS.....	25
TRIM AREA .....	26
DRYING.....	26
CURING AREA.....	26
CANNABIS PACKAGING/LABELING AREA .....	26
KITCHEN AREA .....	26
EXTRACTION LABORATORY.....	26
SECURED AREAS.....	27
EMPLOYEE BREAK ROOM .....	27
SECURED PRODUCT STORAGE AREA.....	27
QUARANTINED PRODUCT STORAGE AREA.....	27
CHEMICAL STORAGE AREA.....	27
<b>EMERGENCY PROTOCOL.....</b>	<b>28</b>
ROBBERY OR THEFT .....	28
FIRE EMERGENCY .....	28
CHEMICAL SPILL .....	28
OTHER EMERGENCIES .....	28
<b>GOOD NEIGHBOR PLANS.....</b>	<b>29</b>
GOOD NEIGHBOR POLICY .....	29
ENVIRONMENTAL PLAN .....	30
AIR QUALITY PLAN.....	30
CLIMATE PLAN.....	31
ECOLOGICAL HEALTH PLAN.....	31
SUSTAINABLE ENERGY PLAN .....	31
ENERGY EFFICIENT LIGHTING PLAN .....	31
• High frequency HID .....	32
• LED.....	32
• Florescent.....	32
WATER PLAN .....	32
• Smart Filtration .....	32
• Re-capturing.....	32
• Wastewater.....	33
REDUCED WASTE PLANS .....	33

EMPLOYEE CONSERVATION .....	33
<b>INVENTORY MANAGEMENT .....</b>	<b>34</b>
INVENTORY METHODOLOGY .....	34
INVENTORY/TRACKING REQUIREMENTS .....	34
INVENTORY CONTROL .....	35
• Initial inventory documentation .....	35
• Weekly inventory documentation .....	35
• Daily Inventory Documentation .....	36
• Batch Specific Inventory Documentation .....	36
• Product Transfer Inventory Documentation .....	36
• Sales and Disposal Records:.....	37
• Documentation of Inventory Discrepancies .....	37
• Waste Inventory Documentation.....	37
• Product Information .....	38
• Inventory Record Keeping .....	38
• Loss or Theft.....	38
TRACKING REQUIREMENTS.....	39
CHAIN OF CUSTODY.....	39
LOSS AND DIVERSION.....	40
ANNUAL INVENTORY PROCEDURE.....	42
<b>LOGS &amp; RECORD KEEPING .....</b>	<b>43</b>
DISPENSARY RECORDS .....	43
TRACKING/LOGGING WORKFLOW AND PERTINENT DATA.....	43
INFORMATION RECORDING LOGS .....	44
• Visitor Log.....	44
• Cleaning Log .....	44
• Maintenance Log .....	44
• Light intensity Log.....	44
• Pest Control Log.....	44
• Feed Schedule Change Log.....	44
• Transplant Log.....	45
• Harvest Log .....	45
• Daily Inspection Log .....	45
• Curing Log.....	45
• Testing Log.....	45
• Finished Batch Log.....	45
<b>SEED TO SALE TRACKING .....</b>	<b>47</b>
TAGGING AND TRACKING WITHIN THE DISPENSARY: .....	48
<b>SELECTING CANNABIS STRAIN VARIETIES.....</b>	<b>49</b>
SYNERGIES BETWEEN TERPENES AND CANNABINOIDS .....	49
TERPENES .....	49
• Linalool .....	49

• Caryophyllene.....	49
• Myrcene.....	49
• Limonene.....	50
• Humulene.....	50
• Pinene.....	50
• Delta3Carene.....	50
• Cineole/Eucalyptol.....	50
<b>CANNABINOIDS.....</b>	<b>50</b>
• THC.....	51
• THC-A.....	51
• CBN.....	51
• CGB.....	51
• CBC.....	52
• CBD.....	52
• CBD-A.....	52
<b>VARIETIES OF CANNABIS.....</b>	<b>52</b>
• Cannabis Sativa.....	52
• Cannabis Indica.....	52
• Cannabis Ruderalis.....	53
• CBD Varieties.....	53
• Quantum Cannabis.....	53
<b>BREEDING GUIDE.....</b>	<b>54</b>
<i>GENETIC MODEL OF CHEMOTYPE - OVERVIEW.....</i>	<i>54</i>
• Genetic model of high CBC lines.....	55
• Genetic model of high THC/CBD lines.....	55
• Tissue Culture support of breeding/production plan.....	56
<b>BREEDING 101.....</b>	<b>56</b>
• Evaluate.....	56
• Select.....	56
• Recombine.....	56
• Result.....	56
<b>METHOD FOR STOCK SEED ESTABLISHMENT.....</b>	<b>57</b>
• Starting from purchased seed of landraces, varieties, or clones.....	57
• Starting from purchased clones.....	57
<b>METHOD FOR ESTABLISHING A PROPRIETARY FEMINIZED SEED LINES.....</b>	<b>57</b>
<b>METHOD FOR ESTABLISHING A PROPRIETARY CLONE.....</b>	<b>58</b>
<b>CULTIVATION PROCEDURES.....</b>	<b>59</b>
<b>GROWING ENVIRONMENT AND QUALITY CONTROL.....</b>	<b>59</b>
• Temperature Control.....	59
• Humidity.....	59
• Air Circulation.....	59
• Air Ventilation.....	60
• Odor Reduction.....	60
• Carbon Dioxide.....	60
• Lighting.....	61
• Drainage.....	61

• UV Filtration.....	61
ENVIRONMENTAL ZONE SPECIFICATIONS BY ROOM .....	62
<b>CANNABIS CONDITIONS.....</b>	<b>65</b>
MGP - MAXIMUM GENETIC POTENTIAL.....	65
SHORT LIFE.....	65
POSITIVE ATTITUDE .....	65
LIVING WATER AND SOIL.....	65
SUN ENERGY.....	65
<b>CANNABIS BASIC NEEDS.....</b>	<b>66</b>
COMPONENTS OF PHOTOSYNTHESIS .....	66
AIR (CO2, CARBON) .....	66
• Stomata.....	66
• Temperature.....	66
• Humidity.....	67
• CO2.....	67
WATER (H2O, HYDROGEN AND OXYGEN).....	67
• Initial water quality.....	67
• Determining a plant zone's optimal watering schedule.....	67
• Under-watering.....	67
• Over-watering.....	68
OPTIMAL PH.....	68
LIGHTING.....	68
• HID lighting.....	69
• HPS.....	69
• Traditional HPS lighting.....	69
• High Frequency HPS lighting.....	69
• Metal Halide.....	69
• T5 Florescent Lighting.....	70
• LED lighting.....	70
• Induction Lighting.....	70
• Photosynthetic Spectrum.....	70
• Light Intensity requirements.....	71
• Photoperiod.....	71
<b>PLANT NUTRIENTS.....</b>	<b>72</b>
FOOD (NUTRIENTS) .....	72
PRIMARY MACRONUTRIENTS .....	72
• Nitrogen (N).....	72
• Phosphorous (P).....	72
• Potassium (K).....	72
SECONDARY MACRONUTRIENTS.....	73
• Calcium (Ca).....	73

• Magnesium (Mg).....	73
• Sulfur (S).....	74
<b>MICRONUTRIENTS (TRACE ELEMENTS).....</b>	<b>74</b>
• Micronutrient list .....	74
<b>NUTRIENT SOURCES AND PREPARATIONS.....</b>	<b>75</b>
• Inorganic and Synthetic Nutrients.....	75
• Organic Nutrients.....	76
• Organic Compost Teas.....	76
• Top Packs.....	77
• Spikes.....	77
• Organic Bottled Nutrients.....	77
• Hybrid organic/synthetic formulas.....	77
<b>NUTRIENT DEFICIENCIES COMMON FOR CANNABIS.....</b>	<b>78</b>
• Calcium Deficiency .....	78
• Copper Deficiency .....	78
• Iron Deficiency.....	80
• Nitrogen Deficiency.....	80
• Phosphorus Deficiency.....	81
• Potassium Deficiency.....	81
• Magnesium Deficiency.....	83
• Sulfur Deficiency.....	83
• Zinc Deficiency .....	84
• Manganese Deficiency .....	84
<b>GROWING MEDIUM (SUBSTRATE).....</b>	<b>85</b>
<i>THINK LIKE A ROOT!</i> .....	85
<i>PHYSICAL PROPERTIES OF GROWING MEDIUM.....</i>	<i>85</i>
• Aeration/porosity.....	85
• Aeration/porosity components of soil.....	86
• Moisture/water holding capacity .....	86
• Moisture/water holding components of soil blends .....	86
<i>CHEMICAL PROPERTIES OF GROWING MEDIUM.....</i>	<i>86</i>
• pH.....	86
• CEC/cation exchange capacity.....	87
<i>BIOLOGICAL PROPERTIES OF GROWING MEDIUM .....</i>	<i>87</i>
• Microbes.....	87
• Humus .....	87
• Worm Compost.....	88
<i>BUILDING A QUANTUM SEMI-SOIL (QSS).....</i>	<i>88</i>
<b>CANNABIS LIFE CYCLE SOPS.....</b>	<b>90</b>
<i>STARTING FROM SEED.....</i>	<i>90</i>
<i>PLANTING SEEDLINGS.....</i>	<i>90</i>
<i>DETERMINING SEX IN THE CANNABIS PLANT .....</i>	<i>91</i>
• Male cannabis plant.....	91

SEXING A CANNABIS PLANT.....	91
SEED STORAGE .....	92
CLONING CANNABIS PLANTS.....	92
• Cloning Process .....	93
• Watering Clones .....	93
• Cloning Hot House .....	94
• Transplanting Clones.....	94
• Watering Transplants.....	94
VEGETATIVE PHASE: SETTING UP FOR SUCCESS.....	95
• Early Vegetative (V2).....	95
• Late Vegetative/Pre-flowering (V3).....	95
• Transplanting Vegetative Plants .....	96
• Pre-Flowering (V3).....	97
• Flowering F1-F20 .....	97
• Late Flowering .....	97
<b>PEST CONTROL &amp; DISEASE MANAGEMENT .....</b>	<b>98</b>
IPM –PEST (AND DISEASE) MANAGEMENT .....	98
• Biosecurity .....	98
• Pest and Disease Control Tracking .....	98
IPM PROGRAM.....	99
• Infestation level.....	99
• Prevention .....	99
• Monitoring.....	99
• Immediate action .....	99
IPM TRAINING .....	100
PESTICIDE APPLICATION PROCESS .....	100
• Equipment and tools.....	101
• Pesticide Storage .....	101
• Laundering protective gear .....	102
APPROVED ACTIVE INGREDIENTS FOR PESTICIDES AND FUNGICIDES.....	103
DEPARTMENT APPROVED PESTICIDES AND FUNGICIDES NAMES AND USES.....	103
• Azadirachtin.....	103
• Neem oil .....	103
• Garlic oil/Powder .....	103
• Copper Octanoate .....	104
• Geraniol.....	104
• Kaolin.....	104
• Hydrogen peroxide .....	104
• Additional permitted pest and disease controls .....	104
MICROBIAL AND BIOLOGICAL PESTICIDES AND FUNGICIDES.....	105
• <i>Bacillus pumilus</i> .....	105
• <i>Bacillus subtilis</i> .....	105
• <i>Bacillus thuringiensis</i> .....	105
• <i>Isaria fumosorosea</i> .....	105
• <i>Pythium oligandrum</i> DV 74.....	105

• <i>Streptomyces griseovirdis</i> strain k61 .....	105
• <i>Streptomyces lydicus</i> WYEC 108 .....	105
• <i>Trichoderma asperellum</i> ICC 012 .....	105
• <i>Trichoderma gamsii</i> ICC 080 .....	105
• <i>Trichoderma harzianum</i> Rifai KRL-AG2 .....	106
• <i>Trichoderma virens</i> G-41 .....	106
• <i>Reynoutria sachalinensis</i> .....	106
<b>COMMON PEST VARIETIES AND SYMPTOMS .....</b>	<b>106</b>
• <i>White Flies</i> .....	106
• <i>Thrips</i> .....	106
• <i>Spider Mites</i> .....	106
• <i>Aphids</i> .....	107
• <i>Fungus Gnats</i> .....	107
<b>COMMON PLANT DISEASES .....</b>	<b>108</b>
• <i>Powdery Mildew</i> .....	108
• <i>Root Rot/Pythium</i> .....	108
• <i>Mold/Botrytis</i> .....	108
• <i>Fusarium Wilt</i> .....	108
<b>ENVIRONMENTAL STRESSES .....</b>	<b>108</b>
• <i>Over-feeding (nutrients)</i> .....	109
• <i>Root Bound</i> .....	109
• <i>Light burn</i> .....	109
• <i>Over-watering</i> .....	110
• <i>Under-watering</i> .....	110
• <i>Heat burn</i> .....	110
• <i>CO2 burn</i> .....	110
• <i>pH Imbalance</i> .....	111
<b>ADVANCED GROWING TECHNIQUES.....</b>	<b>112</b>
<i>TOPPING</i> .....	112
<i>SUPER CROPPING</i> .....	112
<i>SCROG</i> .....	112
• <i>Netting</i> .....	113
• <i>SCROGing</i> .....	113
<b>PRODUCT HANDLING.....</b>	<b>115</b>
<b>HARVESTING.....</b>	<b>116</b>
<b>PHASE 1 PROCESSING .....</b>	<b>117</b>
<i>POST-HARVEST – BATCH SEGREGATION</i> .....	117
<i>PROCESSING/WET TRIMMING</i> .....	117
<i>PROCESSING/DRY TRIMMING</i> .....	117
<i>DRYING</i> .....	118
• <i>Stem drying cannabis</i> .....	118
• <i>Screen drying cannabis</i> .....	118

CURING.....	119
SECURED STORAGE .....	119
SEALING PRODUCT .....	119
TESTING .....	120
PACKAGING .....	120
• Post-Testing .....	121
• Packing.....	121
• Final Weight.....	121
• Packaging container specifications.....	121
• Labeling specifications.....	122
<b>DAILY MANUFACTURED PRODUCTS PROCESSES.....</b>	<b>124</b>
OPENING RESPONSIBILITIES.....	124
CLOSING RESPONSIBILITIES .....	124
STANDARD OPERATING PROCEDURES.....	124
• Safety Checks .....	124
• Preparation.....	125
<b>MANUFACTURED CANNABIS PRODUCTS PREPARATION.....</b>	<b>126</b>
QUALITY CONTROL, SANITATION, SAFETY AND HEALTH STANDARDS .....	126
STATE REGULATIONS .....	126
GENERAL STANDARDS .....	126
• Manufactured cannabis products per §11-850-72: .....	126
• Sanitation Standards per § 11-850-92:.....	127
<b>MANUFACTURED CANNABIS PRODUCTS PRODUCTION.....</b>	<b>129</b>
CONCENTRATE (HASH) PRODUCTION .....	129
• Types/methods of concentrate production.....	129
<b>EXTRACTION METHODS .....</b>	<b>130</b>
WATER BASED EXTRACTION (BUBBLE HASH) .....	130
• Water Based Extraction Process.....	130
CO2 EXTRACTION.....	130
• Extraction Machine Use.....	130
SOLVENT EXTRACTION.....	131
<b>EXTRACTION PROCEDURES.....</b>	<b>133</b>
CLEANING EQUIPMENT.....	133
DISPOSAL OF WASTE.....	133
QUALITY CONTROL.....	133

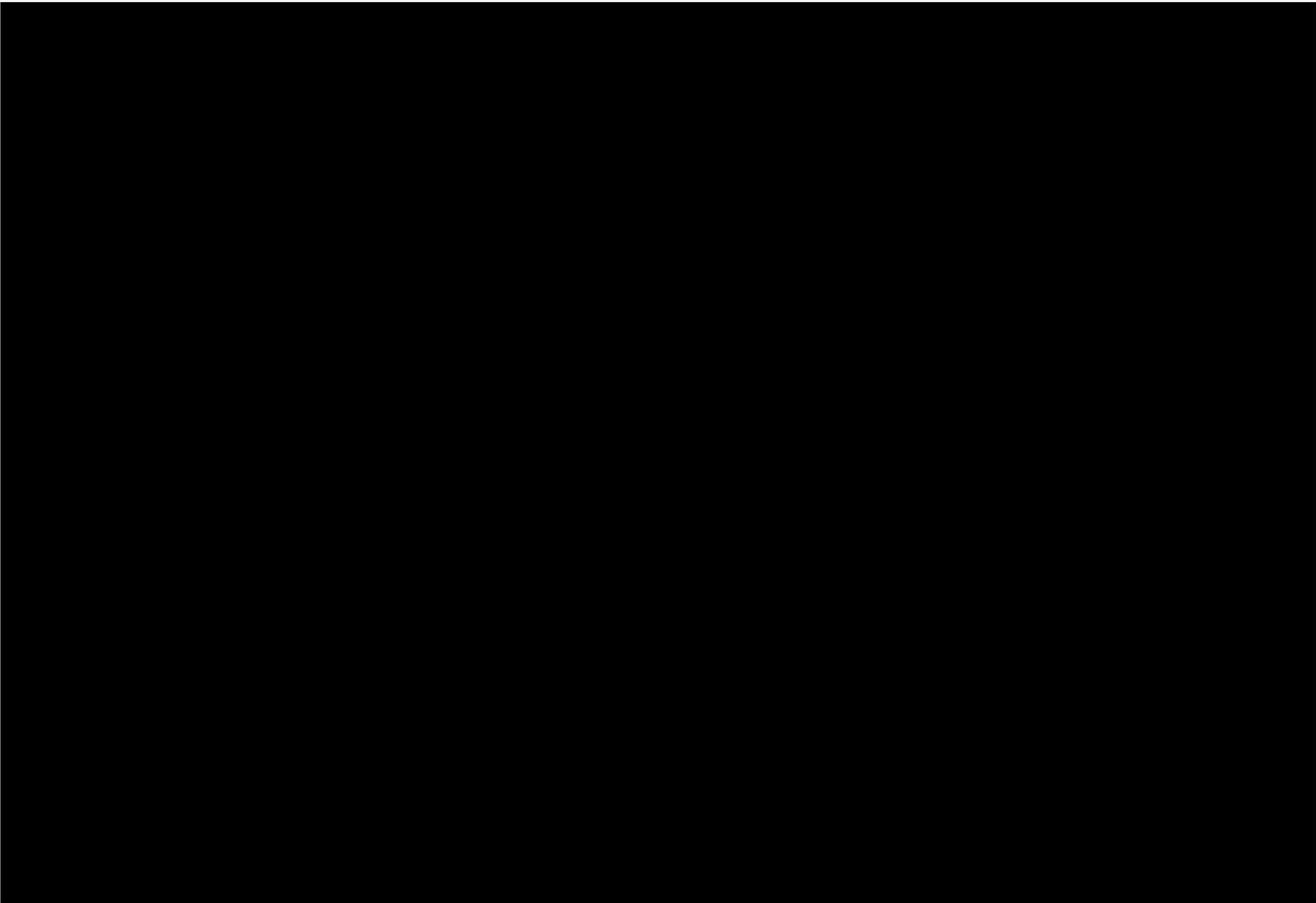
<b>EMERGENCY PROCEDURES .....</b>	<b>135</b>
<i>FIRE EMERGENCY .....</i>	<i>135</i>
<i>CHEMICAL SPILL .....</i>	<i>135</i>
<i>OTHER EMERGENCIES .....</i>	<i>135</i>
<i>RECORD KEEPING/DOCUMENTATION .....</i>	<i>135</i>
• <i>Documentation/Records Needed.....</i>	<i>135</i>
<b>LABORATORY TESTING .....</b>	<b>136</b>
<i>STATE REGULATIONS .....</i>	<i>136</i>
<i>MICROBIOLOGICAL TEST.....</i>	<i>136</i>
<i>MYCOTOXIN TEST.....</i>	<i>137</i>
<i>PRESENCE OF PESTICIDES .....</i>	<i>137</i>
<i>BEST PRACTICE LABORATORY TESTING PROCEDURES .....</i>	<i>137</i>
<b>PACKAGING AND LABELING .....</b>	<b>139</b>
<i>STATE REGULATIONS .....</i>	<i>139</i>
• <i>Labeling specifications.....</i>	<i>139</i>
<b>DISPENSARY FACILITY STORAGE .....</b>	<b>141</b>
<b>SALE AND DISTRIBUTION .....</b>	<b>143</b>
<b>PRODUCT INFORMATION .....</b>	<b>144</b>
<b>TRANSPORTATION.....</b>	<b>145</b>
<b>PRODUCT RECALL PLAN .....</b>	<b>146</b>
<i>RECALL REGULATIONS.....</i>	<i>147</i>
<i>WHEN TO RECALL MEDICAL CANNABIS PRODUCTS.....</i>	<i>148</i>
<i>HOW TO RECALL MEDICAL CANNABIS PRODUCTS.....</i>	<i>148</i>
• <i>Corrective Action Plan (CAP) .....</i>	<i>148</i>
• <i>Step One: Industry Notification .....</i>	<i>149</i>
• <i>Step Two: Public Notification .....</i>	<i>149</i>
• <i>Step Three: Procurement .....</i>	<i>149</i>
• <i>Step Four: Documentation and Record Retention .....</i>	<i>150</i>
• <i>Step Five: Disposal.....</i>	<i>150</i>
<b>CANNABIS WASTE – DESTRUCTION AND DISPOSAL.....</b>	<b>151</b>
<i>WASTE PROCESSING CENTER.....</i>	<i>151</i>
<i>SECURED WASTE COLLECTION .....</i>	<i>151</i>
<i>DISPOSING OF WASTE.....</i>	<i>151</i>
<i>MATERIALS NEEDED FOR PROCESSING GREEN WASTE.....</i>	<i>152</i>

*PROCESS FOR RENDERING CANNABIS UNUSABLE*..... 152  
*DISPOSAL OF CANNABIS WASTE RENDERED UNUSABLE* ..... 152  
    • *Liquid Waste*.....152  
    • *Hazardous Waste* .....152  
*STATE REGULATIONS* ..... 152

# Staff Schedule

Production Staff	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cultivation Manager	8-5	8-5	8-5	8-5	8-5		
Processing Manager	8-5	8-5	8-5	8-5	8-5		
Clone Agents	8-5	8-5	8-5	8-5	8-5	8-5	8-5
Vegetative Agents	8-5	8-5	8-5	8-5	8-5	8-5	8-5
Flowering Agents	8-5	8-5	8-5	8-5	8-5	8-5	8-5
Processing Agents	8-5	8-5	8-5	8-5	8-5		
Packaging Team Lead	8-5	8-5	8-5	8-5	8-5		
Packaging Agents	8-5	8-5	8-5	8-5	8-5		

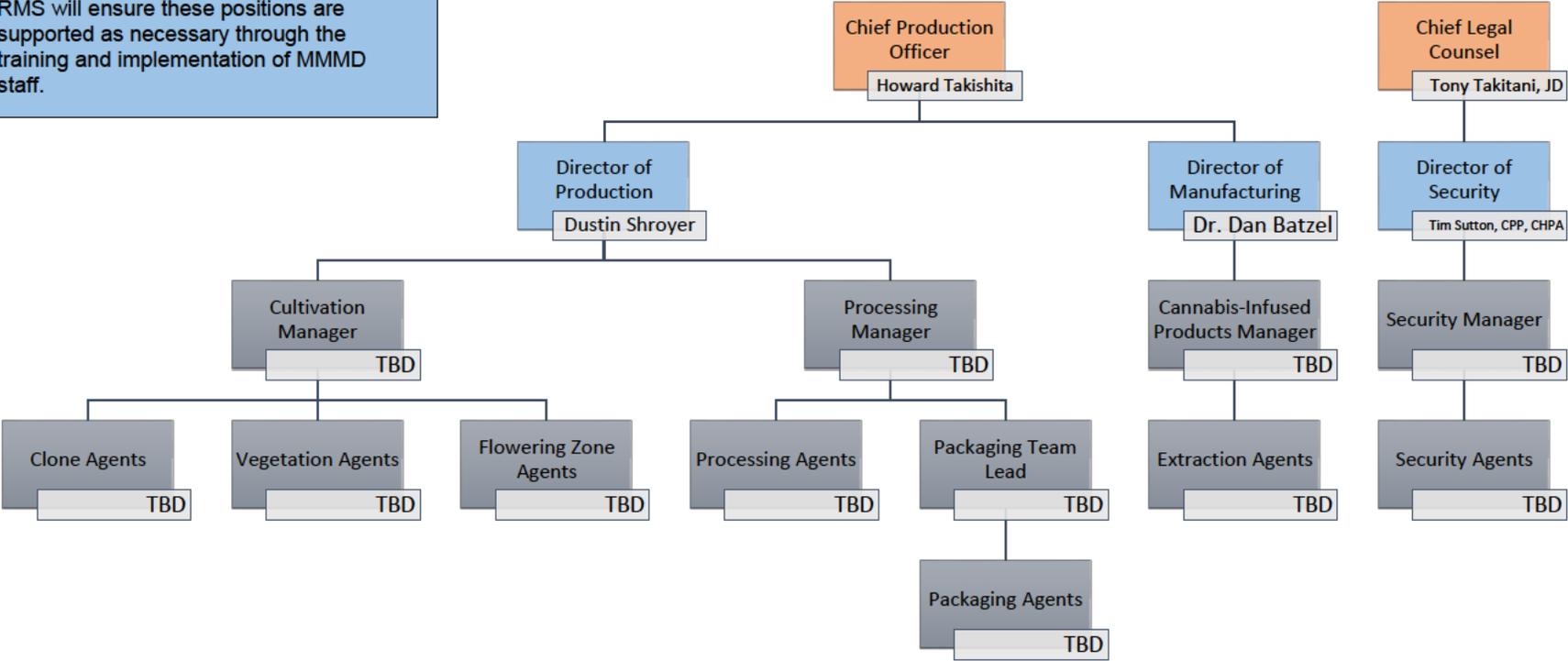
Manufacturing Staff	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cannabis-Infused Products Manager	8-5	8-5	8-5	8-5	8-5		
Extraction Agents	8-5	8-5	8-5	8-5	8-5		



# Organization Chart

Maui Medical Marijuana Dispensary, LLC

Revolution Managed Services  
 RMS will ensure these positions are supported as necessary through the training and implementation of MMD staff.



---

## Job Descriptions

---

### ***Director of Production***

The Director Production will drive the long-range strategic planning process for operations by overseeing and managing all production operations, including production itself, and inventory control. The Director of Production will be responsible for the products life cycle management, maintaining quality, safety, and regulatory compliance relating to the production facilities. Additionally, the Director Production will be involved in the development of operations-related plans, capacity, budgets, infrastructure, policies and procedures.

Required experience, qualifications and education: a minimum of a Bachelor's degree, or ten to twelve years related experience and/or training, or equivalent combination of education and experience. Must be able to pass applicable background checks, and agree to comply with policies, procedures and confidentiality requirements as set forth by the employer.

### ***Director of Manufacturing***

The Director of Manufacturing will be responsible and accountable for leading the scientific group of the organization through the development and execution of the business plan that achieves the Consumables market by delivering innovative products to customers. Additionally, the Director of Manufacturing will have close oversight over analytics, formulations, and extractions. Specifically, in accordance with Act 241, the Director of Manufacturing will oversee the preparation, propagation, compounding, conversion, or processing of a substance containing cannabis or its principal psychoactive constituent tetrahydrocannabinol.

Required experience, and education qualifications: An advanced degree in Chemistry or very closely related Sciences field. A minimum of 10+ years in a similar industry/scientific environment. Must be able to pass applicable background checks, and agree to comply with policies, procedures and confidentiality requirements as set forth by the employer.

### ***Cultivation Manager***

The Cultivation Manager is responsible for executing protocols and standard operating procedures for all phases of cultivation, including: propagation, vegetative, flowering and harvest. Must maintain cleanliness standards and oversee daily inspections and inventory management. Must be able to maintain safe working practices and report occurrences of diversion and loss or workplace hazards immediately.

Required experience, qualifications and education: The Cultivation Manager should have a bachelor or associate degree from a college/university. The individual's background should be within management, preferably in the agriculture field. He or she

needs to be able to oversee a team of individuals to ensure all plants are ready and harvesting on schedule.

### ***Vegetation Agent***

Vegetation Agents ensures that the vegetative area is always clean, and all production goals are on schedule. Vegetative assistants shall care for all plants in the vegetative growth phase, following precise nutrient regimens and pest-prevention procedures in order to maximize plant health and prepare crops for the flowering phase.

Required experience, qualifications and education: The Vegetation Agent should have a high school diploma at minimum or an equivalent. The individual should have an interest in understanding the vegetative stage of the cultivation of cannabis. They need to be able to collaborate with team members to ensure success of their area.

### ***Clone Agent***

The Clone Agent ensures that the demand for new clones of the appropriate strains is propagated in a manner consistent with the CCO's schedule for production.

Required experience, qualifications and education: The Clone Agent should have a high school diploma at minimum or an equivalent. The individual should have an interest in understanding the clone stage of the cultivation of cannabis. He or she needs to be able to collaborate with team members to ensure success of their area.

### ***Flowering Zone Agent***

The Flower Zone Agent is responsible for executing protocols and standard operating procedures for all phases of cultivation, including: propagation, vegetative, flowering and harvest. Must maintain cleanliness standards and report any pest or other infestation in a timely manner. Maintain safe working practices and report occurrences of diversion and loss or workplace hazards immediately.

Required experience, qualifications and education: The Flowering Zone Supervisor should have a high school diploma at minimum or an equivalent. The individual needs to have experience in agriculture and managing a team for at least two-three years. He or she needs to be able to identify problem areas and report to the team and management effectively. Must be able coordinate with team members to ensure product standards.

### ***Processing Manager***

The Processing Manager oversees all phases of processing beginning at plant harvest. Phases include curing, trimming, marijuana-infused-products (MIP) production, processing and packaging. Additional responsibilities include quality control and

damaged product/waste disposal. Must be proficient with tracking and monitoring systems. Post-production is the highest risk phase for diversion and loss, and this position will work closely with the Director of Security to maintain regulatory compliance and prevent loss. The Processing Manager is responsible for manifesting all finished products from cultivation facility inventory into the dispensary inventory. Must ensure the production outputs are in line with the workflow.

Required experience, qualifications and education: The Processing Manager should have a high school diploma at minimum or an equivalent. Experience working within a manufacturing or agricultural setting and managing staff. Experience studying cannabinoid products and developments. Critical thinking and ability to adjust plans based on needs presented in real time. Well-versed in regulations.

### ***Processing Agents***

The Processing Agent is responsible for curing, trimming, processing into MIP and packaging of all cannabinoid products. Experience and qualifications include the ability to perform repetitive tasks for a continuous period.

Required experience, qualifications and education: The Processing Agent should have a high school diploma at minimum or an equivalent. Basic labor skill set required, with experience working within a manufacturing or agricultural setting preferred.

### ***Packaging Team Lead***

The Packaging Lead ensures the packaging of all products of the facility are labeled and packaged correctly in order to meet the demands of the customers. The packaging team is responsible for all daily packaging operations at the production facility. This includes but is not limited to supervision of team members; inventory control; compliance with laws and regulations; packaging forecasting; health, safety and sanitation requirements; and other various duties.

Required experience, qualifications and education: The Packaging Team Lead should have a bachelor or associate degree from a college/university. The individual's background should be within management, preferably in the agriculture field or packaging industry. He or she needs to be able to oversee a team of individuals to ensure all packaging is ready and on schedule for delivery to dispensaries.

### ***Packaging Agent***

Packaging Agents are responsible for packaging all products produced by the facility. Cannabis Packaging Agents will also ensure that the cannabis-infused-products portion of the facility is always clean and sanitary and all production goals are on schedule.

Required experience, qualifications and education: The Cannabis Packaging Agent should have a high school diploma at minimum or an equivalent. The individual should have an interest in understanding the packaging of the cultivation of cannabis. They need to be able to collaborate with team members to ensure success of their area.

### ***Cannabis-Infused Products Manager***

The Cannabis-Infused Products Manager ensures infused-products facility is maintained in order to meet the demands of production. The cannabis-infused-products team is responsible for all daily operations at the production facility. This includes but is not limited to supervision of team members; inventory control; compliance with laws and regulations; production forecasting; health, safety and sanitation requirements; and other various duties.

The Cannabis-Infused Products Manager ensures that the demand for medication of the appropriate strains and varieties are available for patient purchase that is in a manner consistent with the CCO's schedule for production. Lead agents are responsible for ensuring smooth and efficient daily operations. Managers will also be in charge of direct supervision of cannabis-infused-products agents.

---

## Dispensary Employee Services

---

Pursuant to HAR §11-850-34, Maui Medical Marijuana Dispensary, LLC has established written policies and procedures governing the qualifications, recruitment, hiring, and training of operators, employees, and subcontractors working at the Retail Dispensing Location.

### **PayChex Services**

- **Payroll Services**

In addition to processing the organizations regular payroll for both exempt, and non-exempt employees, Paychex will ensure compliance with federal and state regulations in regards to payroll taxes by managing withholdings for federal, social security, Medicare, state & local taxes, and also provide end of year W-4 processing.

- **Employee Handbook**

Paychex offers a service that will assist in writing the employee handbook that implements company specific policies, and matches company culture, while still maintaining regulatory compliance with local, state, and federal law.

- **Employee Assistance Program (EAP)**

Provides employees, and their eligible family members access to BalanceWorks, a confidential service that provides assistance via quick online or telephonic support to assist with day-to-day issues, or improve work/life balance and enhance well-being. Assistance is made available via referrals, research, information, and/or price discounts in the following areas: Travel, child care, financial information, relocation, home projects, eldercare, pet care, automotive services, event planning, and medical information.

In addition, the EAP program offers a wellness program. The wellness program includes a comprehensive health risk assessment, up to three sessions with a personal wellness coordinator hot help navigate wellness services, 24/7 access to a virtual fitness trainer, and wellness tools, trackers, and articles.

- **Applicant Tracking System (ATS)**

Recruiting and applicant tracking will be streamlined through the use of the Paychex applicant tracking system to assist in creating a positive candidate & new hire

experience by providing a paperless software to express interest in open positions, storing job descriptions, and employee onboarding.

- **Safety Plan**

In order to protect the organization from costly non-compliance penalties, stabilize worker's compensation costs, enhance productivity, and reduce turnover, a sound safety plan is absolutely required. Paychex will assist in the development of the plan by writing a safety program manual tailored to the organization's needs, and provide on-demand WebEx safety trainings.

### ***Training***

Maui Medical Marijuana Dispensary LLC, will provide training upon hire as well as annually to each employee including but not limited to:

- Health, safety, and sanitation standards as required by the Department;
- Security procedures;
- Prohibitions and enforcement as described by HAR §11-850;
- Confidentiality and all other provisions of HAR §11-850 and chapter 329D, HRS that apply to the individual's scope of employment.

### ***Record keeping***

Maui Medical Marijuana Dispensary, LLC, will retain all records, both physical and electronic for a minimum of six years. Electronic data will be encrypted and stored on secure servers in secure storage areas under 24-hour video surveillance. Physical records will also be stored in a secure storage room under 24-hour surveillance. The secure storage room will have limited access. The Dispensary may utilize biometric security measures as well as pin number protection. Access Logs will be analyzed daily to ensure no unauthorized entry has occurred. Access Logs, as well as all other records required by the department in HAR §11-850-41, will be stored for a minimum of six years including but not limited to:

- **Inventory Tracking**

Inventory tracking including transport of Cannabis and manufactured Cannabis products.

- **Dispensing Limitations**

Sales records will be retained for each individual qualifying patient and primary caregiver to reflect compliance with dispensing limitations as required by HAR §11-850-42.

- **Financial Records**

Financial records including income, expenses, bank deposits and withdrawals, and audit reports.

- **Entry and Exit Logs**

Logs recording every individuals entrance and exit from the Dispensary.

- **Employee Records**

## Employee Handbook

MMMC, LLC will utilize an employee handbook developed specifically for the unique operations of the manufacturing, production, and retail medical cannabis facilities. This handbook, developed by PayChex, Inc, includes the following elements:

Section 1: The Way We Work	Section 2: Your Pay and Progress
<ul style="list-style-type: none"> <li>• A Word About This Handbook</li> <li>• Building for the Future</li> <li>• Equal Employment Opportunity</li> <li>• Pregnancy Accommodation</li> <li>• Americans with Disabilities Act</li> <li>• A Word About our Employee Relations Philosophy</li> <li>• No Harassment</li> <li>• Categories of Employment</li> <li>• Anniversary Date</li> <li>• Driver's License/Driving Record</li> <li>• Certification, Licensing and Other Requirements</li> <li>• Immigration Reform and Control Act</li> <li>• New Employee Orientation</li> <li>• Suggestions and Ideas</li> <li>• Talk to Us</li> </ul>	<ul style="list-style-type: none"> <li>• Recording Your Time</li> <li>• Payday</li> <li>• Paycheck Deductions</li> <li>• Garnishment/Child Support</li> <li>• Performance Reviews</li> <li>• Pay Raises</li> <li>• Pay Advances</li> <li>• Overtime</li> </ul>
Section 3: Time Away from Work and Other Benefits	Section 4: On the Job
<ul style="list-style-type: none"> <li>• Employee Benefits</li> <li>• Holidays</li> <li>• Paid Time Off (PTO)</li> <li>• Jury Duty</li> <li>• Voting Leave</li> <li>• Election Judge Leave</li> <li>• Military Leave</li> <li>• Family Military Leave</li> <li>• Civil Air Patrol Leave</li> <li>• Volunteer Emergency Worker Leave</li> <li>• Volunteer Fire Protection Trustee Leave</li> <li>• Witness Leave</li> <li>• School Visitation Leave</li> <li>• Bereavement Leave</li> <li>• Leave of Absence</li> <li>• Domestic and Sexual Violence Leave</li> <li>• Medical Insurance</li> <li>• Dental Insurance for Children</li> <li>• COBRA</li> <li>• Federal Family and Medical Leave Act</li> <li>• Pregnancy Accommodation (Hawaii Employees)</li> <li>• Social Security</li> <li>• Unemployment Insurance</li> <li>• Workers' Compensation</li> <li>• Employee Assistance Program</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct at Client's Location</li> <li>• Confidentiality of Client Matters</li> <li>• Care of Client Records</li> <li>• Attendance and Punctuality</li> <li>• Meal Time</li> <li>• Lactation Breaks</li> <li>• Standards of Conduct</li> <li>• Access to Personnel Files</li> <li>• Client and Public Relations</li> <li>• Non-Solicitation</li> <li>• Distribution</li> <li>• Changes in Personal Data</li> <li>• Care of Equipment</li> <li>• Travel/Expense Accounts</li> <li>• Personal Property</li> <li>• Severe Weather</li> <li>• Natural Disasters</li> <li>• Personal Telephone Calls</li> <li>• Acceptable Use of Electronic Communications</li> <li>• Social Media</li> <li>• Security of Electronic Devices</li> <li>• Dress Policy</li> <li>• Personal Hygiene</li> <li>• Protecting Organization Information</li> <li>• Conflict of Interest/Code of Ethics</li> <li>• Outside Employment</li> <li>• If You Must Leave Us</li> </ul>
Section 5: Safety in the Workplace	
<ul style="list-style-type: none"> <li>• Each Employee's Responsibility</li> <li>• Workplace Violence</li> <li>• Workplace Searches</li> <li>• Hazard Communication</li> <li>• Smoking in the Workplace</li> <li>• No Weapons in the Workplace</li> <li>• Substance Abuse</li> </ul>	

## ***Staff Meetings***

- **Team Meetings**

Team meetings will be implemented organization-wide and will provide opportunities for team members to receive updated training as required by 11-850-34(d) and chapter 329D, HRS, and to discuss current trends and ideas on how to make processes more effective or efficient. Team meetings will, at the very least, be held once a week for each facility as well as a weekly meeting between all facility managers.

- **Shift Meetings**

Shift meeting will be held on a daily basis between team members and the facility manager or department leads. A shift meeting will be held prior to the start of business each day to discuss workflow and goals for the shift. A meeting will also be held at the closure of business to discuss the day's operations and to determine if shift goals were achieved.

---

## Room Areas & Descriptions

---

### **Secured Entry**

Pursuant to §11-850-51 subsection 3, prior to entering the dispensary, all employees must be identified by security or management personnel at the secured entry point. All employees shall enter the facility through the main secure entrance with the head security officer maintaining the secured entry. Once inside the secured entrance area, employees must change into clean working uniforms before entering the working areas of the dispensary.

### **Receiving Areas**

In accordance with §11-850-61 subsection (a), after medical cannabis products are transferred from the dispensary or are received from a wholesale distributor, they must be inventoried and checked in. These products are then assigned an attribute number or ID for inventory tracking and POS identification. These products can then be transferred to the cannabis-infused products production area for processing and manufacturing. The facility manager is responsible for this area.

### **Nutrient Storage Area**

All nutrients shall be stored in the nutrient storage area of the dispensary. The dispensary manager is responsible for this area.

### **Propagation Area**

All clones are stored in the propagation area until they are ready to be transplanted and transferred to a vegetative area. The propagation must be maintained at 80°F/26.7°C and 80% relative humidity. The vegetative manager is responsible for maintaining this area.

### **Vegetative Areas**

The vegetative area is where plants are grown to the appropriate size before being transferred to the flowering area. The vegetative area consists of 3 zones: mother plant quarantine (**V1**), **early- veg area (V2)**, and the **pre-flowering area (V3)**. Lighting remains on for a minimum of 18 hours a day within all vegetative zones. The vegetative manager is responsible for maintaining this area.

### **Flowering Areas**

The flowering area of the dispensary is where full size plants produce flowers. The flowering area is divided into many zones. Plants grow in each zone for 9 weeks before being harvested. All flowering areas must receive 12 hours of uninterrupted darkness in order for plants to produce flowers. Light interruptions will cause plant stress that could



## ***Secured Areas***

All areas within the dispensary facility are limited to licensed personnel. The facility manager is responsible for ensuring all areas within the facility remain secured and limited to authorized personnel.

## ***Employee Break Room***

The employee break room will be in an area without any cannabis production activities.

## ***Secured Product Storage Area***

After cannabis and cannabis-infused products are processed, the facility manager secures them within the facility safe to wait for testing and shipment. After the cannabis and cannabis-infused products pass required testing they will be transferred to the dispensing organization facility or another dispensing organizations facility for sale and distribution. These products will be maintained in the secured product storage area in commercial-grade safes.

## ***Quarantined Product Storage Area***

Any cannabis or cannabis-infused products will be stored in a secured, quarantined area within the licensed facility.

In addition, in accordance with §11-850-85 subsection (j) a non-conforming batch of cannabis or cannabis-infused products will be quarantined separate from all other inventory during retesting.

## ***Chemical Storage Area***

All chemicals for cleaning, as well as pest and disease control, will be held in the chemical storage area of the cannabis-infused products facility. The facility manager will maintain this area and ensure information about chemicals is readily available by maintaining:

- An on-site chemical list;
- Material safety data sheets (MSDS) for all chemicals; and
- An emergency spill kit.

---

# Emergency Protocol

---

Revolution Cannabis will establish emergency procedures and protocols to be implemented organization wide. Employees of the organization will be fully trained on emergency protocols once employed by the company. Emergency protocols will be developed for robbery or theft, fire emergency, chemical spill and for other emergencies as needed.

## ***Robbery or Theft***

- If being robbed at gunpoint or you feel your life is in danger, comply with all requests from perpetrator. Give them whatever they ask for.
- Try to signal for help through security panic buttons provided or through the panic button or police services button located on the alarm panel.
- Contact police as soon as possible
- Notify any required state or local authorities

## ***Fire Emergency***

- If fire is small and isolated, try to exhaust the fire with one of the fire extinguishers.
- In case of a fire emergency, dial 911 for Fire Department or push the symbol on the alarm panel for fire emergency.

## ***Chemical Spill***

- Try to use chemical spill kit for smaller incidents of chemical spill.
- If chemical spill is large or you do not know how to handle the situation, get the facility manager to handle the situation.

## ***Other Emergencies***

- Contact 911 for break-ins or burglaries.
- Contact any required state or local authority in cases of theft, break-ins or burglaries.

---

## Good Neighbor Plans

---

As an organization we realize that when we begin operations we will become a member of the surrounding communities and as such we want to become a valuable and productive member within said communities. Safety for our employees and the surrounding communities is of utmost importance to our organization. We have plans to develop and implement community outreach programs. Such programs and events will include food and clothing drives for local food banks, churches, and others. A plan to donate a certain percentage of yearly profits to schools and infrastructure of the surrounding community is also in development.

### **Good Neighbor Policy**

It is our policy to implement and execute a Good Neighbor Plan and respond to any reasonable complaint immediately to the complainant with a proposed solution and within 10 days or as requested by the Hawaii Department of Health. All neighbor communications must be maintained as part of the company record.

The intent is one of mutual respect between neighbors; to avoid adversarial positions, to treat others as one would like to be treated; to keep an open mind; and be willing to cooperate with neighbors with a goal of creating a safe and healthy neighborhood environment.

MMMD, LLC has worked hard to build positive relationships with the residents and businesses and will continue to build relationships with the community through:

- Introduction meetings with all surrounding businesses, building owners, and residents
- Educational information sessions to discuss the benefits of cannabis and the company's overall mission and goals
- Open feedback channels so any new concerns can be immediately addressed through our website, telephone, or mail
- Complete compliance with all state and local ordinances
- Non-obtrusive business practices that ensure our business is discreet and operates like any other business
- No blatant signage with offensive symbols or verbiage
- Unmarked discreet transportation vehicles

In order to neutralize the odors associated with growing healthy plants, MMMD, LLC will utilize a three-phase odor reduction system to eliminate odor within and around our production facility. Highlights of this plan are as follows

- Cannabis production will be organized into a series of separately sealed zones including but not limited to: vegetative, flowering, trimming, curing, storage, processing, infused products, and hallways connecting rooms.
- A predetermine number of activated carbon filters will circulate and scrub the air at a flow rate calculated to filter all the air in each zone every 15 minutes.
- Each zone will have a slight negative air pressure created by exhausting the air through one point.
- The exhaust from each zone will be filtered a second time through an activated carbon filter before entering a sealed ducting system to be transferred to a common air bank.
- Before exiting the building through a stack system, all exhaust will be filtered a third time through a series of activated carbon filtration screens thoroughly reducing odor emission rates.

### ***Environmental Plan***

Conservation and the reduction of our carbon footprint within the communities we operate in is a primary objective of the organization. This will be implemented throughout the entire organization and at every facility. We will look for new and innovative ways to reduce our carbon footprint within the dispensary and/or the dispensing organization facility. 'Reduce, Reuse, and Recycle' will be implemented on an organization-wide scale.

Environmental sustainability is of the highest priority in order to promote a sustainable community and ensure the impact of our business is positive and influential in achieving future environmental goals. In order to reach this goal, we have contracted designers, engineers and consultants who will design intelligently, utilize energy intelligently, and strive for procedures that lead to zero waste. Various factors will be considered thoroughly when planning equipment, procedures, and methodology including air quality, climate, ecological health, energy efficiency, water quality, transportation, and waste.

The dispensary management will also create and implement an employee conservation plan. The employee conservation plan will detail specific actions employees can take for conservation efforts to try and reduce their carbon footprint. A possible reward program may be created and implemented to reward facility employees for conservation efforts.

### ***Air Quality Plan***

Revolution Cannabis shall support and exceed all air pollution requirements through research and applied action. From the date of initial training, all cultivation team members shall be trained in all mandated air quality regulations. In addition, the cultivation team shall eliminate emissions sources through investigation and consistent monitoring of all environments throughout the dispensary. Additional procedures will be used to offset any carbon emission such as only utilizing CO2 in daytime cycles under

closed-loop protocol with minimal air exchange. During nighttime cycles, CO2 will not be added to growing environments, and air exchanges will increase to allow fresh air in and oxygen out of the growing environment thus offsetting any direct daytime emissions.

### ***Climate Plan***

Additional carbon offsetting shall be utilized to ensure that our carbon footprint is fully eliminated.

- **Wind energy** credits shall be purchased in the direct amount needed to offset the total energy consumption of the dispensary.
- **Solar technologies** continue to advance in the ability to produce more energy and are becoming more affordable. Solar shall be utilized in addition to wind energy to offset and eliminate carbon emissions.

### ***Ecological Health Plan***

True Living Organics is the only true methodology that adds back to the soil leaving it more fertile with every usage. The dispensary team shall apply TLO in order to increase microbial life and nutrient profile within the soil, which not only increases plant health and product efficacy, but also can enrich the land around and within the community as it is recycled.

### ***Sustainable Energy Plan***

In addition to the steps presented in the climate plan, the dispensary team will strive to achieve maximum efficiency and reach maximum genetic potential for all crops produced within the dispensary facility. Current agricultural practices that include high doses of chemical fertilizers and chemical pesticides actually only allow plants to produce 20% of their genetic potential. By using advanced organic techniques, plants can achieve 80-90% of their genetic potential thus decreasing energy expenditure through efficiency by 300%.

### ***Energy Efficient Lighting Plan***

The newest technology will be used throughout the dispensary to ensure that all lamps used in the propagation and growth of cannabis are the most efficient to date. Ongoing research and development on lighting technology will allow the dispensary staff to switch to more efficient lighting means as they become available. The efficiency of lighting technologies shall be measured in grams of cannabis produced per watt and the amount of cannabinoids per gram.

- **High frequency HID**

New high frequency ballast with double-ended HPS bulbs have surpassed all current lighting in production per watt and per square foot. What this means is overall electrical consumption is reduced by 20-30% over traditional HPS technology when utilized within the flowering areas of the dispensary.

- **LED**

LED lights allow you to provide the optimal lighting spectrum for photosynthesis. They are perfect to utilize in vegetative growth and can replace lights such as metal halides, easily reducing vegetative electrical consumption for lighting by 20-30%. LEDs also produce substantially less heat therefore reducing cooling cost by around 50%.

- **Florescent**

Florescent lighting technologies are perfect for early vegetative growth and mother plants. They use far less electricity and produce very little heat, making them perfect for reducing overall electrical consumption.

## ***Water Plan***

Facility procedures utilizing water will be created with conservation in mind.

- **Smart Filtration**

Water filtration is necessary in commercial agriculture to avoid contaminants often found in normal tap water. Such contaminants can destroy microbial life and defeat the purpose of following an organically grown cultivation regimen. All water within the dispensary will be tested and only filtered as needed. When water filtration is necessary, it will be done with the newest filtration technologies that produce minimal wastewater.

- **Re-capturing**

In addition to smart filtration, the dispensary will use an advanced series of pumps and filters to recapture and re-use all water collected within the facility through the HVAC system and de-humidification processes.

- **Wastewater**

Our gardening requires minimal run-off from the watering of plants and little to no additional nutrient needs to be added to the water. All water that does run off from daily watering practices can be captured and filtered along with any water used for cleaning within the facility.

### ***Reduced Waste Plans***

Plans to reduce waste throughout the facility will be accomplished by recycling and reuse whenever possible. The bulk of waste within the facility will be from used soil and green waste. All soil within the facility will be composted and reused as TLO soil just keeps getting better, and recycling soil is not only better for the environment, but will actually help the cultivation team to achieve maximum genetic potential and efficacy. Composting green waste will also greatly reduce the amount of landfill generated within the facility and produce quality compost that will be used to inoculate soil with microbial life and improve the overall nutrient profile. In addition to composting, the dispensary team shall reuse everything possible through sterilization processes. All cultivation containers, tools, and other potential waste components will be cleaned and reused to their full life span in order to minimize depreciation and waste.

### ***Employee Conservation***

Team members within the cannabis-infused products facility will recycle all paper and plastic waste products. Energy efficient lights and equipment will also be utilized within the facility. We will also create programs within the organization that will encourage and reward employees for their personal conservation efforts, such as carpooling and riding a bike to work. Waste products from the facility will be composted on-site or mixed with biodegradable products for disposal.

---

# Inventory Management

---

## ***Inventory Methodology***

COMPANY will utilize the FIFO inventory model, or First-In-First-Out—FIFO. This implies that COMPANY's oldest inventory items are sold first. Facility management shall ensure that all employees are trained properly on the inventory method to ensure that the oldest products are being sold first.

## ***Inventory/Tracking Requirements***

Inventory management is a critical factor in every area of the dispensary. Pursuant to §11-850-61, subsections (a) (c) and (d), The tracking of all medical cannabis from seed-to-sale will be done through an advanced electronic inventory control system with multiple checks and balances in place to allow our staff to have a complete awareness of all inventory through each stage of processing from propagation to point of sale, disposal, or destruction including: seedlings and clones, vegetative plants, flowering plants, harvested plants and batches, curing batches, pre-tested dry flower, pre-tested trim, post-tested approved dry flower, post-tested approved trim, all unapproved (quarantined) flower and trim, extractions, infusions, and waste. The electronic inventory control system will allow the department to monitor in real-time, the dispensary's tracking system and inventory records. All data collected shall be recorded through the use of template log sheets, computer systems, Secured Information Systems (SIS) and Point-of-Sale systems (POS). In accordance with §11-850-61 subsection (a), the dispensary will maintain a record of clear and unbroken chain of custody at all stages. Physical inventory counts will be done on a daily, weekly, and monthly basis at the cannabis-infused products facility in addition to scheduled inventory checks random audits will be performed. Inventory control procedures shall be utilized as the primary way of determining whether there has been any product diversion and ensuring that all medical cannabis and cannabis-infused products are only being distributed to licensed dispensing organization facilities and licensed, valid state medical cannabis patients.

Physical inventory template log sheets will be filled out each morning before the start of business and again at the closure of business. All weekly inventory/tracking requirement procedures shall be conducted in full compliance with §11-850-61 (a) (c) and (d). Data collected during daily, weekly, annual and random inventory procedures shall be logged and input into computer, SIS, and POS systems. Inventory figures will be cross-referenced with the POS system inventories and data to determine that there are no quantity discrepancies and the chain of custody is maintained in a clear and unbroken manner. In the case of a discrepancy within inventory, we will investigate the root cause of the discrepancy to determine the cause. If the discrepancy is due to employee theft or diversion, we will act quickly to terminate the employment of the perpetrator and contact all necessary authorities for further action. All inventories, procedures, and other documents required by the department shall be maintained on the premises and made

available to the department at all times. In the event of a breach or failure of the tracking system, the dispensary shall suspend operations depending on the tracking system until such time that the tracking system becomes operational. The dispensary will notify the department immediately upon such aforementioned event and again when the operations are resumed.

## ***Inventory Control***

Our organization shall designate in writing a medical cannabis establishment agent who has oversight of the inventory/tracking control system of the medical cannabis establishment. The compliance manager will be responsible for oversight of the inventory control system. The following information outlines how the dispensary staff will maintain inventory control within the dispensary.

The compliance manager is the designated agent who shall oversee the dispensary inventory control system at all times in order to ensure that daily inventory documentation, batch specific documentation, product transfers, inventory discrepancies, and record keeping are always maintained and up to the minute. The appropriate dispensary staff member shall document the following items as they occur:

- **Initial inventory documentation**

Prior to commencing business, the dispensary compliance manager shall:

- Document that the dispensary has commenced business with no cannabis on hand, and recorded this fact as the initial inventory.
- Establish ongoing inventory controls and procedures for the conduct of inventory reviews and comprehensive inventories of cannabis, which shall enable the dispensary to detect any diversion, theft or loss in a timely manner.

- **Weekly inventory documentation**

Upon commencing business, each dispensary compliance manager shall ensure a weekly inventory of cannabis stock, which shall include, at a minimum:

- The date of the inventory;
- Summary of the inventory findings;
- The name, signature and title of the individuals who conducted the inventory and the agent-in-charge who oversaw the inventory; and
- The product name and quantity of cannabis plants or cannabis-infused products at the facility.

- **Daily Inventory Documentation**

The compliance manager shall establish and implement an inventory control system that documents each of the following:

- Each day's beginning inventory
- Acquisitions
- Harvests
- Sales
- Disbursements
- Disposal of unusable cannabis
- Ending inventory

- **Batch Specific Inventory Documentation**

For each batch of cannabis cultivated, the processing manager shall document the following into the inventory control system:

- The batch number;
- Whether the batch originated from cannabis seeds or cannabis cuttings;
- The strain of the cannabis seeds or cannabis cuttings planted;
- The number of cannabis seeds or cannabis cuttings planted;
- The date on which the cannabis seeds or cuttings were planted;
- A list of all chemical additives used in the cultivation, including, without limitation: nonorganic pesticides, herbicides, and fertilizers;
- The number of cannabis plants grown to maturity;
- Harvest information, including, without limitation: the date of harvest, the final yield weight of processed usable cannabis, and the name and medical cannabis establishment agent registration card number of the medical cannabis establishment agent responsible for the harvest; and
- The disposal of cannabis that is not usable cannabis, including a description of and reason for the cannabis being disposed of, including, if applicable: the number of failed or other unusable cannabis plants, the date of disposal, confirmation that the cannabis was rendered unusable before disposal, the method of disposal, and the name and medical cannabis establishment agent registration card number of the medical cannabis establishment agent responsible for the disposal.

- **Product Transfer Inventory Documentation**

When providing medical cannabis to another medical cannabis establishment, the following information shall be recorded in the ICS:

- The amount, strain, and batch number of medical cannabis provided to the medical cannabis establishment;
- The name and medical cannabis establishment registration certificate number of the other medical cannabis establishment;

- The name and medical cannabis establishment agent registration card number of the medical cannabis establishment agent who received the medical cannabis on behalf of the other medical cannabis establishment; and
- The date on which the medical cannabis was provided to the medical cannabis establishment.

- **Sales and Disposal Records:**

The compliance manager shall ensure documentation of all medical cannabis sold or otherwise disposed, including but not limited to:

- The date of sale;
- The name of the dispensary facility to which the medical cannabis was sold;
- The batch number, product name and quantity of cannabis sold; and
- If applicable, the date, quantity, manner in which, and reason why any cannabis was destroyed.

- **Documentation of Inventory Discrepancies**

- If an agent from the dispensary identifies a reduction in the amount of medical cannabis in the inventory of the dispensary not due to documented causes, the compliance manager shall determine where the loss has occurred and take and document corrective action. If the reduction in the amount of medical cannabis in the inventory of the dispensary is due to suspected criminal activity by a medical cannabis establishment agent, the medical cannabis establishment shall report the medical cannabis establishment agent to the division and to the appropriate law enforcement agencies.
- Any loss or theft of medical cannabis shall be documented and reported from the medical cannabis establishment to the appropriate law enforcement agency and to the division. The dispensary head of security shall ensure copies of all documentation are maintained as required for at least 6 years after the date pursuant to §11-850-41 on the documentation and shall provide copies of the documentation to the division for review upon request.

- **Waste Inventory Documentation**

All data pertaining to the disposal of all cannabis that is not usable shall be tracked in the inventory control system including:

- A description of and reason for the cannabis being disposed of, including, if applicable, the number of failed or other unusable cannabis plants;

- The date of disposal;
- Confirmation that the cannabis was rendered unusable before disposal;
- The method of disposal; and
- The name and medical cannabis establishment agent registration card number of the dispensary agent responsible for the disposal
- The name and medical cannabis establishment agent registration card number of the dispensary agent responsible for the disposal

- **Product Information**

For each batch of cannabis produced in the dispensary, the following information shall be recorded for internal use and to be made available to the purchasing dispensary upon or prior to delivery:

- The batch number
- Whether the batch originated from cannabis seeds or cannabis cuttings
- The strain of the cannabis seeds or cannabis cuttings planted
- The number of cannabis seeds or cannabis cuttings planted
- The date on which the cannabis seeds or cuttings were planted
- A list of all chemical additives used in the cultivation, including, without limitation, nonorganic pesticides, herbicides and fertilizers
- The number of cannabis plants grown to maturity
- Harvest information, including, without limitation:
  - The date of harvest
  - The final yield weight of processed usable cannabis
  - The name and medical cannabis establishment agent registration card number of the dispensary agent responsible for the harvest

- **Inventory Record Keeping**

- The dispensary compliance manager shall maintain the documentation required for at least six years after the date on the document and provide the documentation to the department for review upon request.

- **Loss or Theft**

- In the event that any loss or theft of cannabis from the dispensary occurs, the compliance manager shall document and report the incident to the appropriate law enforcement agency and to the department. All records and documentation required shall be maintained for a minimum of six years after the date recorded of the documentation. Copies of the documentation shall be made available to the department for review upon request.

## ***Tracking Requirements***

Per § 11-850-61 subsections (a) (c) and (d) Tracking Requirements:

All cannabis in the process of production, distribution, transfer or analysis shall only be accessible only to the minimum number of specifically authorized personnel essential for efficient operation, and shall be returned to its secure location immediately after completion of the process or at the end of the scheduled business day. If a production process cannot be completed at the end of a working day, the processing area or tanks, vessels, bins or bulk containers containing cannabis shall be securely locked inside an adequately secured area. All cannabis and manufactured cannabis products will be tracked electronically to maintain clear and unbroken chain of custody at all stages.

## ***Chain of custody***

The chain of custody of all cannabis and cannabis-infused product shall be documented, through scanning and logging, at all times as it moves through each process within the dispensary. Chain of custody documentation shall be maintained for six years and shall be made available to the department and SP upon request. All plants within a plant group shall be given a unique batch number during the initial transplant. Batch numbers shall remain with each plant and plant group through final packaging and sale. Transplanting shall occur prior to a plant reaching 18 inches in height. At the time of transplant from clone to the second vegetative phase, all plants shall be assigned a specific number and tagged with an individual tag containing the batch number and plant number. Information pertaining to each plant, and batch of plants, including the strain and location, shall be recorded electronically (RFID) or kept in an electronic file until harvest or destruction. All plants shall be physically inventoried on a weekly basis by the cultivation team and records of the inventory shall be kept at the facility for a minimum of six years. All batch movements shall be tracked and recorded so their physical location is known at all times during the cultivation and production processes. Any plants removed from a batch shall be recorded on a permanent record and maintained on-site for a minimum of six years. All batch numbers shall be included on approved labels for all products designated for distribution to a dispensary. See plant inventory for detailed tracking processes.

Pursuant to HB 321 §-16, no person, except dispensary agents, subcontractors, local law enforcement, the department or the department's authorized representative, DPH inspectors, or other federal, state or local government officials may enter the dispensary except for the following:

- Independent laboratory staff may enter the dispensary for the sole purpose of identifying and collecting cannabis samples for purposes of conducting laboratory tests.
- Emergency personnel may enter the dispensary when necessary to perform their duties.

- Upon written notice to the department, the dispensary staff may allow contractors to enter the dispensary when they are working on a job unrelated to medical cannabis, such as installing or maintaining security devices or performing electrical wiring.
- Upon prior written request, the department or the department's authorized representative may permit other persons to enter the dispensary.

All persons who are not dispensary agents, but who are permitted on the premises of the dispensary pursuant to subsection HB 321 §-16, shall obtain a visitor identification badge from dispensary security personnel prior to entering the dispensary, and shall be escorted and monitored at all times by licensed agents of the dispensary. Visitor identification badges shall be visibly displayed at all times while the visitor is within the dispensary. All visitors must present a valid government issued identification card with a picture in order to be permitted within the premises. All visitors shall be logged in and out, and that log shall include the date, time and purpose of the visit and shall be maintained and made available to the department, at any time, for a minimum of six years. All visitor identification badges shall be returned to dispensary security personnel upon the visitor exiting the dispensary.

Photography or video recording inside a dispensary facility be allowed only to the dispensary facility, the department, law enforcement personnel, or persons approved in writing by the department.

### ***Loss and Diversion***

**Per § 11-850-61 subsections (a)(c) and (d), § 11-850-52 and § 11-850-51-4:** All cannabis in the process of production, distribution, transfer or analysis shall be stored in such a manner as to prevent diversion, theft or loss, and shall be returned to its secure location immediately after completion of the process or at the end of the scheduled business day. If a production process cannot be completed at the end of a working day, the processing area or tanks, vessels, bins or bulk containers containing cannabis shall be securely locked inside an adequately secured area. In order to ensure that cannabis is securely stored and avoid any threat of loss and diversion, the dispensary shall:

- Not produce or maintain cannabis in excess of the quantity required for normal, efficient operation;
- Store all cannabis and cannabis-infused products in a safe, vault or secured room and in such a manner as to prevent diversion, theft or loss;
- Maintain all cannabis that is not part of a finished product in a secure area or location within the dispensary accessible only to specifically authorized personnel, which shall include only the minimum number of employees essential for efficient operation;
- Keep all approved safes, vaults, or other equipment or areas used for the production or storage of cannabis securely locked or protected from entry, except for the actual time required to remove or replace cannabis;

- Keep all locks and security equipment in good working order;
- Not allow keys to be left in the locks and not store or place keys in a location accessible to persons other than specifically authorized personnel;
- Not allow other security measures, such as combination numbers, passwords or electronic or biometric security systems, to be accessible to persons other than specifically authorized personnel; and
- Keep the dispensary securely locked and protected from unauthorized entry at all times.

Any additional safeguards required by the department in regard to special security issues, such as extremely large stock of cannabis, exposed handling or unusual vulnerability to diversion, theft or loss, will be complied with immediately.

Pursuant to § 11-850-51-5(b), if a breach or failure of the security system has occurred, the dispensary will suspend operations at once and secure the facility until the security system is fully operational.

If a loss, theft or diversion of cannabis has occurred from the dispensary, the dispensary agent in charge shall notify the department and the nearest SP district immediately. The department and SP shall determine the appropriate storage and security requirements for all cannabis in the dispensary and may require additional safeguards to ensure the security of the cannabis. If a reduction in the amount of medical cannabis in the dispensary's inventory is due to suspected criminal activity, the dispensary agent in charge shall immediately report the reduction to the department and SP.

All areas of the dispensary containing cannabis, including any rooms with approved safe or approved vaults, shall have a sign posted at all entryways, which shall be a minimum of 12 inches in height and 12 inches in length and shall state: "Do Not Enter – Limited Access Area – Access Limited to Authorized Personnel Only" in lettering no smaller than one inch in height.

No dispensary agents and/or security policies shall prohibit members of the department, local law enforcement or other federal, state, local government officials, or persons authorized by the department from entering any area of the dispensary to perform their governmental duties, in accordance with § 11-850-37 subsections (b) (c) and (d).

Pursuant to §11-850-32(a), the dispensary will provide the department with the address, tax map key number, and a copy of the premises title or lease of the proposed location of the production center and allow the department to inspect the premises in compliance with this law and 329D HRS, at least 30 days prior to producing cannabis or manufacturing cannabis products at the dispensary.

## ***Annual Inventory Procedure***

A complete and accurate record of all plant stock or products of cannabis on hand shall be prepared by the compliance manager annually on the anniversary of the initial inventory, or other date that the dispensary agent-in-charge may choose, so long as it is not more than one year following the prior year's inventory.

All inventories, procedures and other documents required by HB321 §-6 and § 11-850-61(a)(c) and (d) shall be maintained on the premises and made available to the department at all times.

---

## Logs & Record Keeping

---

### **Dispensary Records**

Pursuant to HAR §11-850-41, the dispensary shall keep and maintain upon the permitted premises for a six-year period true, complete, legible and current books and records, including but not limited to the following:

- Inventory tracking including transport of Company cannabis and manufactured cannabis products
- Sales and compliance with regulations pursuant to HAR §11-850-31
- Financial records including Company income, expenses, bank deposits and withdrawals, and audit reports;
- Logs of entry and exit for dispensary facilities
- Employee records

Security recordings will be retained a minimum of one year.

The dispensary will submit quarterly reports on the 15<sup>th</sup> of each quarter, thus, on January 15, April 15, July 15, and October 15. (Reports will be considered on time if submitted the next day if the 15<sup>th</sup> is a Saturday, Sunday or a State holiday.) Reports shall include, but are not limited to pursuant to HAR §11-850-38:

- Records of entry and exit for all individuals who entered the facility
- Amounts by category of cannabis products manufactured and offered for sale by the dispensary
- Amounts by category of cannabis and manufactured cannabis products sold by the dispensary
- A list of all cannabis, manufactured cannabis products, or unusable cannabis materials that have been destroyed or will be destroyed by the dispensary
- A summary of the financial statement
- Laboratory results of all tests that were conducted
- Description of any breach or halt in the dispensary's security system and tracking system
- Any additional/other information requested by the department

### **Tracking/Logging Workflow and Pertinent Data**

All workflow will be tracked and recorded for daily review by the dispensary manager. The following logs will be utilized by designated dispensary employees to track workflow through the dispensary. In addition to logging, all information shall be entered into the Secured Information System (SIS).

## ***Information Recording Logs***

The dispensary compliance manager shall work with each section manager (cultivation and processing) to ensure that all logs are utilized and maintained to track all facility workflow.

- **Visitor Log**

The company compliance manager is responsible for ensuring any authorized personnel visiting the dispensary use a visitor log. The visitor log will be located inside the main secured entrance to the dispensary.

- **Cleaning Log**

The dispensary manager is responsible for overseeing the use of a daily cleaning log to track cleaning within all zones of the dispensary.

- **Maintenance Log**

A facility maintenance log will be utilized to track maintenance and upkeep on all equipment within the dispensary.

- **Light intensity Log**

To ensure all grow lighting is maximized, the light produced by each lamp must be checked on a monthly basis by the dispensary staff. The dispensary cultivation manager shall work with each zone manager to measure lighting throughout each growing zone in the dispensary.

- **Pest Control Log**

Plant growth zone managers will be responsible for tracking and logging all pest and disease control measures within the dispensary.

- **Feed Schedule Change Log**

Plant growth zone managers will be responsible for tracking feeding schedules in all growth zones for which they are responsible. Any change or variance in the respective plant-zone feed schedule must be noted and brought to the attention of the dispensary manager.

- **Transplant Log**

The transfer log tracks all plant movement throughout the dispensary. The vegetative manager is responsible for tracking plant movements before flowering begins.

- **Harvest Log**

All flowering zone harvest schedules are tracked on the dispensary harvest log. The flowering zone management team is responsible for updating this log and noting any variances to the CFM.

- **Daily Inspection Log**

All zone managers are responsible for performing daily inspections and communicating all variances to the dispensary manager. All zones must comply with the information designated in the growing environment and quality control section. The daily inspection log includes:

- Room temperature: zone manager
- Humidity: zone manager
- CO2: zone manager
- Electrical and lighting: zone manager
- Pest and disease: zone manager
- Photoperiod: zone manager

- **Curing Log**

A curing log shall be maintained by the processing manager to track the time specific strains and batches are in the curing area. In addition to time, environmental conditions such as temperature and humidity are also recorded.

- **Testing Log**

A testing log shall be maintained by the processing manager to keep track of all batches, their respective test dates and results.

- **Finished Batch Log**

The following information shall be collected pursuant to HAR §11-850-61 in order to maintain records for company R&D, tracking purposes, as well as relaying all pertinent data to the dispensary to which any part of a batch is sold.

- For each batch of cannabis cultivated, the following information shall be collected:
  - The batch number
  - Whether the batch originated from cannabis seeds or cannabis cuttings
  - The strain of the cannabis seeds or cannabis cuttings planted
  - The number of cannabis seeds or cannabis cuttings planted
  - The date on which the cannabis seeds or cuttings were planted
  - A list of all chemical additives used in the cultivation, including, without limitation nonorganic pesticides, herbicides and fertilizers
  - The number of cannabis plants grown to maturity
  - Harvest information, including, without limitation:
    - The date of harvest;
    - The final yield weight of processed usable cannabis; and
    - The name and medical cannabis establishment agent registration card number of the dispensary agent responsible for the harvest.

---

## Seed to Sale Tracking

---

In accordance with HAR §11-850-61 subsections (a)(c) and (d)1, all cannabis tracking shall begin when a seed or part of the parent plant is removed and a propagating plant or clone is created. At this point, a unique plant RFID identification number shall be assigned, labeled, and recorded by the vegetative zone manager which then will be used to track the history and data through propagation, vegetation, flower, harvest, processing, cure and final packaged inventory.

Each plant shall be tracked by its physical grid location in the premises at all times. All significant dates and observations will be recorded as key data points in the SIS for referencing needs throughout the plant's life cycle. This information can be used to recall any contaminated medium, nutrient, or issue that may occur during the stages listed above and allows for easy removal from production or inventory of any product that does not meet the requirements of the state.

An inventory of cannabis in the cultivation stage shall be conducted each week. During the cultivation process, physical location will be broken up into a grid system and each square will have a designated number of plants per grid area.

Auditing the inventory of all plants shall be effectively and efficiently accomplished with spot checks done daily to mitigate any diversion during cultivation, processing and/or packaging, as well as detecting any human error that may have occurred while entering information during the plant's life cycle.

After the flowering cycle has been completed and the plant is harvested, inventory shall be transitioned from the flowering zone to the processing department, and prepared for trimming. During this transfer, all product will be scanned, tracked and logged. At this point, a pre-trimming weight will be determined and logged.

After being weighed and logged, all flowers will be cleaned, trimmed, and prepared for drying in the secured vault. Each batch is transferred through each state with the entirety of the batch. All green waste from the trimming process shall be weighed, logged and disposed of according to our policy for managing waste from cannabis plants (see transportation protocol).

After drying and curing, each batch shall be tested for efficacy. Once a batch has passed all regulated testing protocol and our standards set forth by business management, it shall be released for packaging and labeling. Before being transferred to packaging, the entire batch will be weighed again, scanned and logged into the SIS via RFID.

As each package is wrapped and processed, each individual package will be weighed again and reconciled against the total batch weight. Once packaged, all product shall be

scanned and logged into the second vault designated for all approved and packaged products and stored until transfer.

Immediately before being transferred to a retail location, all product will be scanned again and logged into the SIS via RFID technology. Once arriving at the retail MME, all POs will be inventoried and received by the store processing management team, and the information will be logged into the SIS and store inventory via RFID technology.

This entire process from seed to sale will be recorded on high definition cameras, and all recordings will be stored for a minimum of 90 days.

**Tagging and tracking within the dispensary:**

The dispensary compliance manager is responsible for coordinating with the dispensary cultivation manager and the processing manager to ensure every plant and any amount of cannabis product is tracked throughout the plant and product life cycle within the dispensary. The following will represent data collection and product lockdown points within the facility in a seed to sale time line:

Step	Action
Sprouted seed and clones	Receive tag, tracking begins
Transfer to V2	Tag scanned, location changed, data recorded and plant transferred
Transfer to designated flower zone	Tag scanned, location changed, data recorded and plant transferred
Harvest	Tag scanned, weight recorded, location changed, data recorded and flower transferred for trimming
Trimmed	Tag scanned, weight recorded, location changed, data recorded and transferred to drying
Drying	Tag scanned, weight recorded, location changed, data recorded and transferred
Curing pre-testing	Quarantine for testing results, RFID scanned, weight recorded, location changed, and data recorded and transferred
Curing post-testing	If approved for release, RFID scanned, weight recorded, location changed, data recorded and transferred
Processing	Barcode label generated and applied, tag scanned, weight recorded, location changed, data recorded and transferred to secured safe to await delivery to store location
Delivery	Tag scanned, weight recorded, location changed, data recorded and transferred to transport vehicle (Delivery manifests generated and transferred to secure storage area)

---

## Selecting Cannabis Strain Varieties

---

Planning strain varieties to produce is essential to meet patient demands for medicine, produce quality cannabis, and to ensure consistency of dosage. Feedback from retail distributors and the cultivation team shall be combined with comprehensive test results to set production goals for the dispensary. In addition, a given strain's ease of propagation and overall yield must be taken into account in order to reach production goals and maximize energy and space efficiency within the dispensary. The dispensary cultivation manager shall plan a cultivation calendar in order to meet demand and production goals. The following represent other important strain differentiations that will be taken into account by the dispensary cultivation manager:

### ***Synergies between Terpenes and Cannabinoids***

Terpene and cannabinoid profiles of strains shall be taken into account in order to provide the most effective and desirable medicine for patients.

### ***Terpenes***

Terpenes are compounds that constitute what is arguably the largest and most diverse class of natural products. The majority of these compounds are found in plants. They provide the flavor and the smell to cannabis, but also provide an array of medicinal benefits. The dispensary cultivation manager shall plan production of a wide range of strain varieties in order to produce multiple terpene profiles and combinations in order to treat the varying conditions within multiple patients. The following are examples of terpenes commonly found in cannabis and their medicinal benefits:

- **Linalool**

Lily, floral, spicy. Treats anxiety and acts as a sedative.

- **Caryophyllene**

Rich spicy, sweet, woody, clove, camphor, pepper. Anti-septic, anti-tumor, anti-inflammatory, anti-fungal, anti-bacterial.

- **Myrcene**

Clove, earthy, citrus, mango, mint. Antiseptic, anti-tumor, analgesic, anti-depressant, muscle relaxant. Most common terpene in cannabis, found in higher levels in indicas. Makes cell walls more permeable thus increasing the effect of cannabinoids.

- **Limonene**

Citrus, rosemary, juniper, peppermint. Increased circulation, pain relief.

- **Humulene**

Hoppy, coriander. Common in sativa. Anti-inflammatory, anti-tumor, anti-bacterial.

- **Pinene**

Pine, rosemary, dill, basil. Mental focus, energy, bronchodilator, anti-inflammatory.

- **Delta3Carene**

Pungent, sweet, pine, woody, cedar. Can help dry excess fluids such as runny nose and perspiration.

- **Cineole/Eucalyptol**

Spicy, camphor, minty. Increased circulation, pain relief.

## **Cannabinoids**

There are over 480 natural components found within the cannabis plant, of which at least 85 have been determined to be cannabinoids. Cannabinoids are chemicals found in animals and other plants as well, but nowhere are they more abundant and effective than in the cannabis plant. The most well-known and researched of these is THC or delta-9-tetrahydrocannabinol. THC is the substance primarily responsible for the psychoactive effects of cannabis.

Like opiates and opiate derived pharmaceuticals, cannabinoids affect the user by binding with receptors within the cells of the body and different parts of the central nervous system. There are at least two kinds of cannabinoid receptors found to date, termed CB1 and CB2. Anandamide is a cannabinoid-like substance found within the brain commonly referred to as the “Bliss Molecule.” Naturally occurring anandamide binds to CB1 receptors. Other naturally occurring substances that bind to CB1 have recently been discovered, and these, together with the receptors, have been termed the endogenous cannabinoid system or endocannabinoid system.

The effects of THC are heavily influenced by the other components of the plant, most particularly, other cannabinoids. Differences between the cannabinoids found within the cannabis plant are determined by the extent to which they are psychologically active and the other medicinal benefits they correspond with. For example, CBG, CBC and CBD are not known to have a psychological effect, however they have been proven to have multiple medicinal benefits, while THC and CBN are cannabinoids often associated with the psychological effect of cannabis. Most cannabinoids are multifaceted with a wide array of effects and benefits.

The dispensary cultivation manager shall review test results for every batch in order to ensure that multiple strains are produced with varying cannabinoid profiles in order to properly and accurately provide medicines to treat multiple patients with different needs. By combining different cannabinoids and different terpene profiles, the possibilities for medicinal healing are vast. The dispensary cultivation manager shall utilize cannabinoid profiles when planning for strain production at all times. The following cannabinoids are all known to provide different effects and medicinal benefits:

- **THC**

Delta 9 Tetrahydrocannabinol is the cannabinoid that gives cannabis the majority of its psychoactive affects. Cannabis has been bred for high levels of THC, and we are only now starting to breed for complimentary cannabinoids. THC can be used to treat pain, nausea, tumors, and ADHD.

- **THC-A**

THC-A is the most common cannabinoid found in cannabis. It is not psychoactive and has an array of medicinal effects including anti-tumor, anti-insomnia, anti-inflammatory, and anti-spasmodic.

- **CBN**

(Cannabinol) As THC oxidizes from exposure to heat and light, it turns into CBN. CBN is only mildly psychoactive and highly sedative.

- **CBG**

Cannabigerol is a non-psychoactive cannabinoid that stimulates brain cell development and bone growth. It is also antibacterial, anti-insomnia, and anti-tumor.

- **CBC**

Cannabichromene has been shown to be 10 times more effective than CBD for treating anxiety. CBC also stimulates bone growth. It is non-psychoactive.

- **CBD**

Highly effective in treating epilepsy and MS, cannabidiol is non-psychoactive. CBD is as effective at treating tumors and pain as THC, however very useful for children and to others whom do not wish for the psychoactive effects of THC. CBD can treat diabetes by lowering blood sugar and is very effective in treating stress and insomnia.

- **CBD-A**

CBD-A is more commonly found in the ruderalis varieties, which are often bred with sativa and indica varieties for their auto flowering abilities. CBDA has been linked to anti-tumor and anti-inflammatory effects.

## ***Varieties of Cannabis***

- **Cannabis Sativa**

Cannabis sativa is the tallest variety of cannabis. All other varieties most likely evolved from the sativa plant. Most hemp is actually sativa. Sativa varieties are thin and wispy, most likely from evolving in hotter regions of the world where adequate airflow between branches was necessary to remain disease free. 100% sativa strains take up to six months to flower and can grow extremely tall making true sativa unsuitable for indoor and commercial production. The sativa strains commonly grown for medicine are actually hybrids that have been bred with indica varieties to shorten both their height and flowering time. Sativa produces a cerebral effect that can be energizing, followed by an increase in appetite. Sativa hybrids are very helpful for anyone experiencing loss of appetite such as those undergoing chemotherapy or patients with HIV/AIDS.

- **Cannabis Indica**

Cannabis indica is short and bushy with thick stems. Most likely evolving in the cooler regions of Asia and Afghanistan, cannabis indica has a short flowering time, most likely to complete its reproductive cycle prior to freezing conditions. Most medicinal varieties of cannabis are a derived form of indica, and its cannabinoid profiles are well-balanced producing significant levels of THC, CBD,

and CBN. Indicas produce a body-centered effect that allows relaxation, quality rest, and pain relief for patients.

- **Cannabis Ruderalis**

Cannabis ruderalis is of very poor quality and is only grown in hybrid form with sativa or indica due to its auto flowering capabilities. For the most part, ruderalis hybrids should be avoided in indoor cultivation. Ruderalis is the shortest cannabis variety, and it has minimal branching. Avoid all seeds and strains that state they are auto flowering.

- **CBD Varieties**

CBD varieties are now being bred as they offer many of the medicinal benefits of cannabis with little to no psychological effects making them suitable for children and adults who wish to remain clear headed. CBD effects on THC can be noticed with as little as 1% CBD, however, the ratio of THC to CBD can be widely influenced and tailored to create the desired effect for a particular ailment or specific patient. One-to-one ratio strains often have the best of both worlds where the psycho effects of THC are diminished by CBDs, however, all the medicinal effects from THC remain intact.

- **Quantum Cannabis**

QC gardening is a biodynamic approach to indoor cannabis cultivation that combines proven ancient wisdom with the newest technologies to achieve maximum efficiencies in energy and space. The results of QC are healthier plants and a healthier happier company culture. Additional side effects are larger yields, higher quality, increased terpene content and profile, and an increased employee retention rate.

---

# Breeding Guide

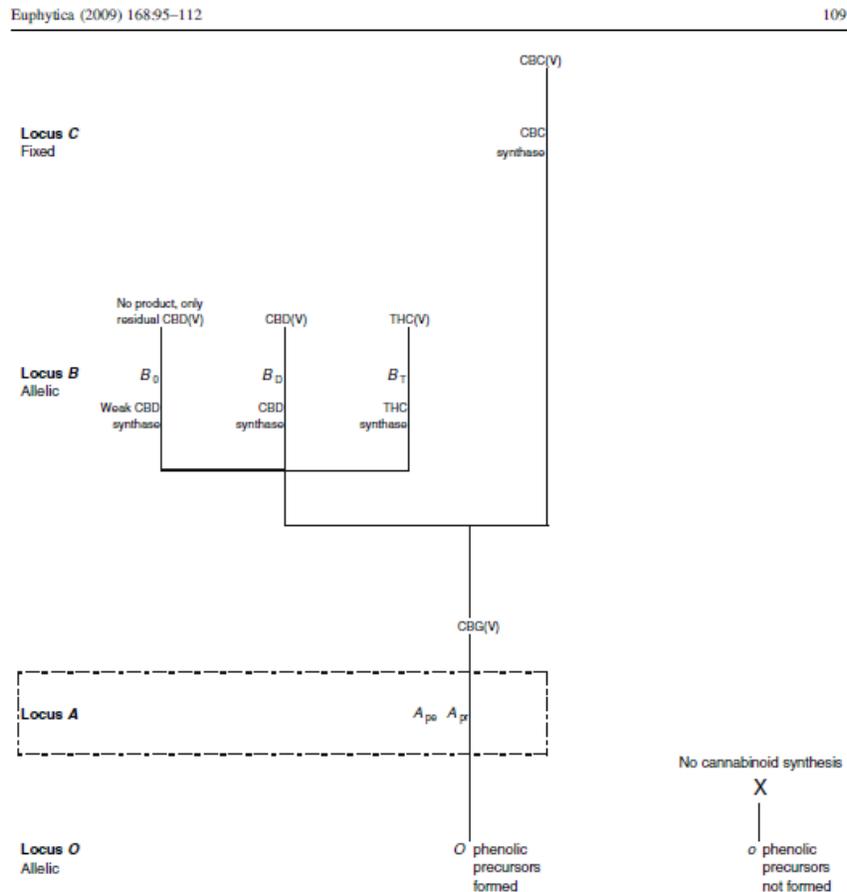
---

## Genetic model of chemotype - Overview

Genetic studies demonstrate control for cannabinoid accumulation in published, peer reviewed literature. Principal research was completed and published over four papers by de Meijer et al. 2003-2009.

### Key findings:

- Accumulation of CBG, CBD, CBC and THC is under genetic control
- Genetic variation, needed for classic breeding to succeed, has been demonstrated to exist.
- Studies demonstrate clear and repeatable segregation for accumulation of cannabinoids, emphasizes need for genetic diversity in genetic library/collection
- Demonstrated that breeding efforts can be utilized to stabilize chemotype
- Published genetic model below:



- **Genetic model of high CBC lines**

CBC is not an accumulated cannabinoid like THC or CBD. CBC is not accumulated in floral tissue, it is found in leaves. CBC is a juvenility linked compound that the plant loses the ability to produce as it moves toward sexual maturity. Rarely found are plants that do not lose ability to create CBC, especially in the first 60 days of plant growth. Example I figured (d) maintains CBC vs. normal (b) loses CBC.

The rare plants can be found through repeated chemotype analysis; requires close collaboration with analytical lab to regularly test young plants.

CBC retention is under genetic control and can be stabilized in self-progeny. Literature does not elucidate genetic control in crosses or other genetic situations (though likely recessive). Discovered in Afghan and Korean lines (de Meijer, 2009)

**Challenges:**

Low amounts found: 0-4% w/w (15-100% CBC by weight of total cannabinoids) %CBC increases with decreased light. To maximize yield, research needs to balance plant growth and CBC accumulation.

- **Genetic model of high THC/CBD lines**

One genetic pathway controls ratios of THC/CBD. Leads to clear differentiation within a family as shown (figure right). Published report that THC/CBD ratios are stable in the plant in the first true leaves until maturity. This allows the chemotyping of seedlings and discarding of unwanted proportion of family when plants are small; efficient breeding.

Key to breeding progress for % accumulation of THC/CBD is intermating of non-drug and drug strains.

Requires repeated chemotype analysis with first true leaves and then confirmation of % accumulation of mature floral structure.

Pure CBD lines may be difficult to achieve due to shared genetic pathway with THC. Highest CBD lines may accumulate a minor percentage of CBC, CBG, and/or THC. Similarly, high THC lines may accumulate a minor percentage of CBD, CBC, and/or CBG. Challenge is to improve accumulation and purity with breeding.

- **Tissue Culture support of breeding/production plan**

Methods described in great detail in Lata et al., 2009; specific method optimized for Cannabis. Proven genetic and chemotype stability over several generations. Protocols/Methods demonstrated commonly online; sterile technique required utilizing clean air hood.

Tissue Culture procedures can be utilized for:

- Multiplication/production aid for clonal propagation
- Maintain key clean lines/genetics in living library/backup; creating a living germplasm bank
- Seed germination aid – can be utilized for embryo extraction from older/degraded seed

## ***Breeding 101***

There are three main steps to breeding:

- **Evaluate**

Chemotype - using analytical laboratory capabilities to quantify range of population. Identify all cannabinoids and secondary metabolites of interest. Phenotype (physical type) – quantify ranges in traits key to success of production and/or market: rate of growth, days to flower, leaf shape, leaf size, other aesthetics (purples, golds, etc.) or traits of interest or differentiation.

- **Select**

Identify elite plants or high performers from population based on improved chemotype and phenotype.

- **Recombine**

Mate only high performers based on improved chemotype and phenotype. Sow seeds and **Evaluate** progeny to begin the breeding cycle again.

- **Result**

Advancing each generation beyond the previous generation in a continuous process.

## ***Method for Stock Seed Establishment***

- **Starting from purchased seed of landraces, varieties, or clones**
  - Sow seeds, recover 1-10 seedlings
  - Grow seedling, record important plant characteristics
    - Ex. leaf shape, size, growth rate, branching, days to flower, chemical phenotype, flower yield, chemical yield, etc.
  - Keep up to 6-10 desirable plants
  - Allow plants to mass/group pollinate within landrace/variety
  - Collect seed, record seed volume, germination test and store
  - Split seed for future utility
    - Internal genetic library, gemplasm bank – store seed cool and dry for later use
    - Utilize to create proprietary, feminized seed line
- **Starting from purchased clones**
  - Grow plants of known clones, record plant characteristics
    - Ex. leaf shape, size, growth rate, branching, days to flower, chemical phenotype, flower yield, chemical yield, etc.
  - Keep up to 4 desirable plants
  - Allow plants to mass/group pollinate
  - Collect seed, record seed volume, germination test and store
  - Split seed for future utility
    - Internal genetic library, gemplasm bank – store seed cool and dry for later use
    - Utilize to create proprietary, feminized seed line

## ***Method for Establishing a Proprietary Feminized Seed Lines***

- Sow 100 seeds from Stock Seed of each line.
  - Complete chemotype analysis (at 1-3 true leaf stage)
    - Discard undesirable 25-75% of plants (percentage discarded will be goal and experience driven)
  - Grow plants to flowering
    - Discard males when identified unless needed in breeding
    - Discard weak plants based on poor growth, non-flowering, etc.
  - Evaluate female plants for flowering, chemical yield
    - Take cuttings to establish new proprietary clone/vegetative line (below)
- OR**
- Select 3-5 individuals to intermate

- Intermating of sister plants begins creation of feminized, genetically pure seed line

Repeat sowing 100 seeds, evaluation, and selection until plants closely resemble each other in desired chemotype and phenotype.

### ***Method for Establishing a Proprietary Clone***

- Take 10-20 cuttings from original, elite, selected plant to establish new/improved clone.
- Root ½ of cuttings per convention and grow in production setting
  - Confirm evaluation of chemotype and chemical yield
  - Evaluate for growth rate, flowering characteristics, other key factors to production
- Initiate ½ of cuttings from original selected plant into tissue culture for future utility (method above)
  - Keep tissue culture if line performs well in production, discard tissue culture if line fails.
- Begin process to convert line to proprietary, feminized seed form (above)

---

# Cultivation Procedures

---

## **Growing Environment and Quality Control**

Propagation materials used in cultivation operations will be appropriate for use in food production. Cultivation operations will follow the propagation material manufacturer's usage and storage recommendations.

It is the goal of the dispensary team to deliver the highest quality, purest cannabis with consistency of dosage. To achieve these high standards, the dispensary is engineered for year-round production. Our growing rooms are all capable of maintaining constant environmental conditions including temperature, humidity, and CO<sub>2</sub>. In addition, we introduce fresh air through an advanced smell-eliminating air flow system that works in conjunction with other controls such as UV light to avoid all mold, bacteria, mildew and fungal outbreaks. Our closed loop ventilation system will lessen the potential of pest contamination and reduce the need for any organic pesticides.

The microclimate within each section of the dispensary must be constantly maintained in order to prevent pest and disease and achieve the highest and purest quality. In order to maintain an optimal environment, the dispensary cultivation manager shall ensure that the following conditions are constantly maintained:

- **Temperature Control**

Room temperature in all vegetative and flowering areas should be maintained at 78 F/25.5 C. Each growing room will be equipped with adequate HVAC in order to maintain required temperatures. Temperature shall be monitored daily by the dispensary staff.

- **Humidity**

Relative humidity levels must be kept at or below 55% humidity in vegetative areas and at or below 45% in flowering sections of the dispensary. Humidity level in the propagation area shall be maintained at 80%. Humidity shall be monitored daily by the dispensary staff.

- **Air Circulation**

Circulation fans are used to improve air quality, strengthen plants, and prevent pest and disease. Circulation fans will be placed every four to six feet throughout all growing and drying areas of the dispensary. We will keep fans running 24 hours a day.

- **Air Ventilation**

Air and humidity will leave each growing space through an activated carbon filter via a main trunk line.

- **Odor Reduction**

After air leaves each working area, it is filtered through carbon a second time and then treated with ozone before leaving the building through a roof top stack.

**Detailed description of air treatment systems that will reduce off-site odors:**

The dispensary will contain a three-phase odor reduction system to eliminate odor within and around our production facility. Cannabis production is organized into a series of separately sealed zones including but not limited to: vegetative, flowering, trimming, curing, storage, processing, infused products, and hallways connecting rooms. Within each zone, a predetermine number of activated carbon filters will circulate and scrub the air at a flow rate calculated to filter all the air in the room every 15 minutes. Each zone will maintain neutral air pressure created by exhausting the air through one point at the same rate fresh air enters the zone. The exhaust from each zone is filtered a second time through an activated carbon filter before entering a sealed ducting system to be transferred to a common air bank. Before exiting the building through a filter system, all exhaust is filtered a third time through a series of activated carbon filtration screens thoroughly reducing odor emission rates.

**Odor Reduction Plan:**

Step 1: Create sealed zones

Step 2: Exhaust system with neutral pressure

Step 3: Three-Phase odor reduction system:

- Air within zone filtered through activated carbon every 15 minutes
- Air exhausted from rooms filtered through activated carbon, transferred through sealed ducting system
- All exhaust is collected in a common air-bank where it is filtered a third time before leaving the building through an engineered filter system.

- **Carbon Dioxide**

CO2 levels shall be maintained at 1,000 ppm in all vegetative areas and 1450 ppm in all flowering areas. CO2 levels shall be monitored daily by the dispensary staff.

- **Lighting**

Vegetative lighting will consist of florescent lighting for mother plants, clones, and early vegetation. Larger vegetative plants will be placed under LED or 600-1,000 watt Blue Metal halide lamps to achieve appropriate size to be transferred into the flowering area. Flowering plants will be grown using 1,000 watt E-Papillion with high-frequency adjustable strength ballasts or equivalent lighting. Lighting shall be monitored daily by the dispensary staff and intensity verified and logged monthly.

- **Drainage**

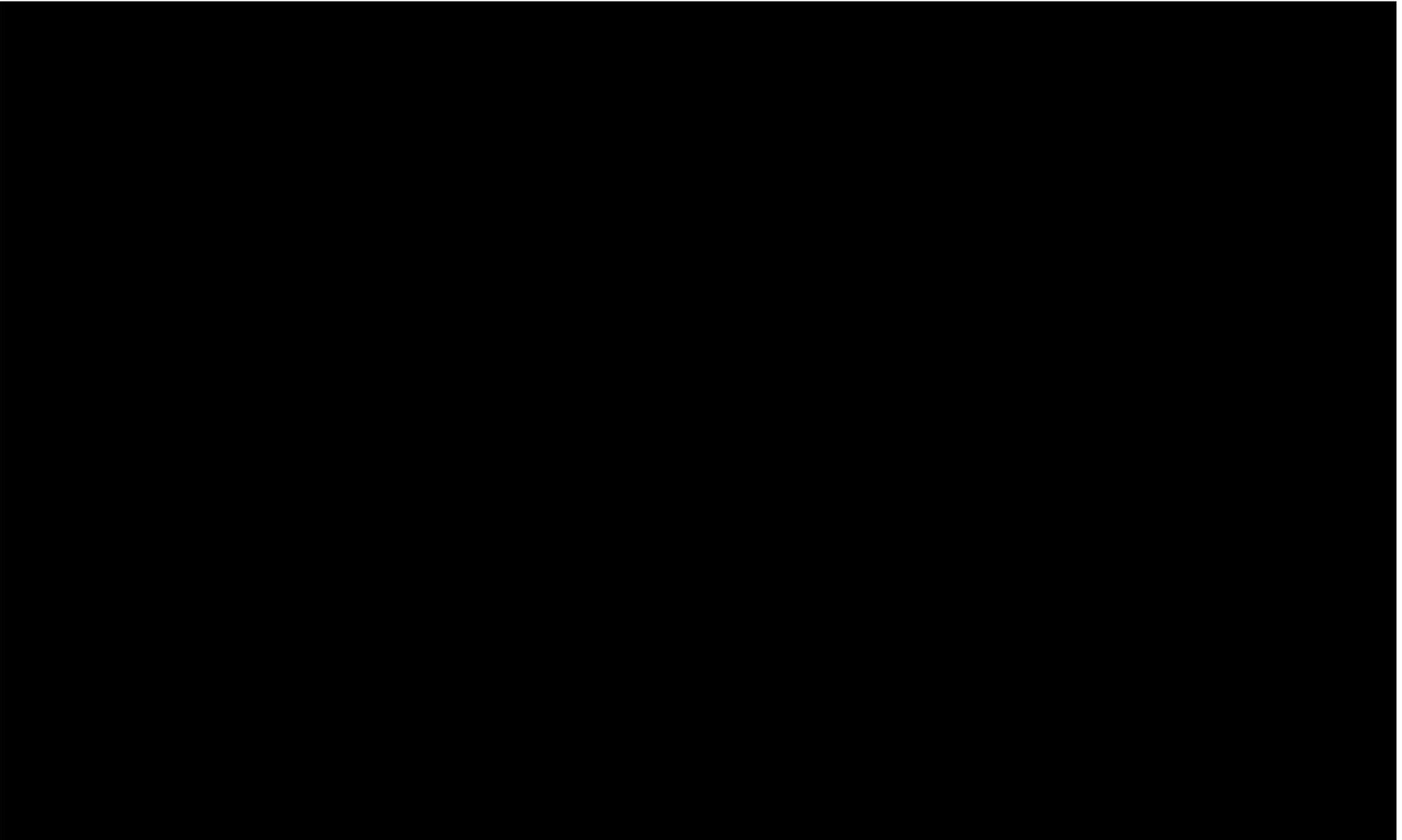
All plants not in auto-pot or hydroponic systems will need appropriate drainage. Drainage shall be achieved through the plumbing of each growing surface and will be brought to a central floor drain located in each section of the dispensary. Drainage shall be monitored daily by the dispensary staff.

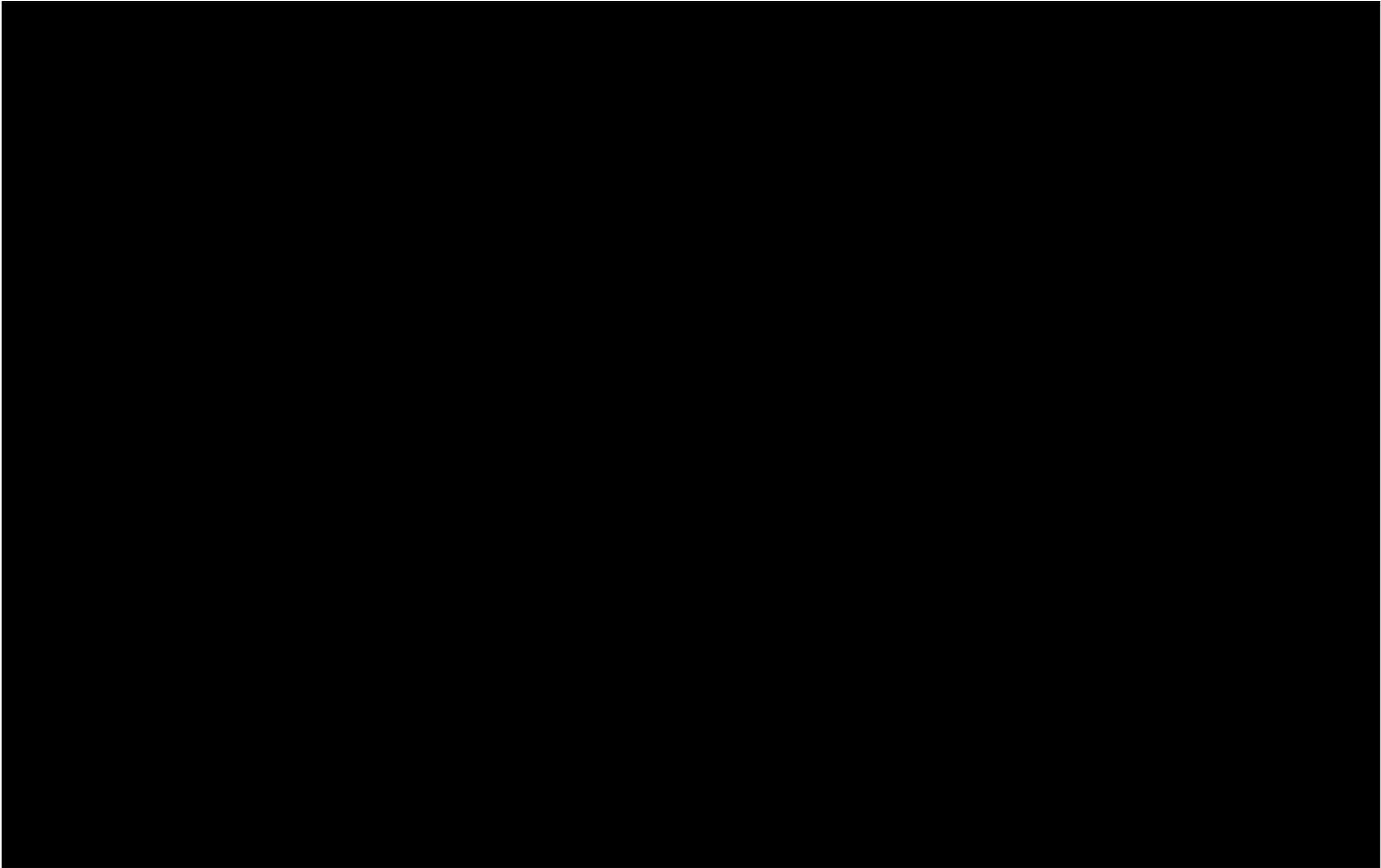
- **UV Filtration**

Environmental scrubbers will be used throughout the dispensary to clean harmful contaminants found in the air. EVS systems work to combat mold and other diseases that flourish in humid conditions.

## ***Environmental Zone Specifications by Room***

The dispensary manager shall ensure the following room environments are held at these specifications:







---

# Cannabis Conditions

---

## ***MGP - Maximum Genetic Potential***

When a plant receives everything it needs and nothing it doesn't, it will achieve MGP. MGP plants yield up to 80% more than normal plants, which greatly helps economically and environmentally, as the energy, time and space that go into production are greatly offset by the abundant harvest. Everything that goes into a plant and takes place around a plant affects the plant's ability to achieve MGP. Every day is an opportunity to achieve or subtract from MGP. For example, if a plant wilts from too little water or there is not an optimal amount of CO<sub>2</sub> (air) to breathe, the end yield will be slightly decreased.

## ***Short Life***

Relative to humans, the cannabis plant lives for a very short period of time. Plants within the dispensary will live an average of 3.5-4.5 months. This short life span means you can see the direct effects associated with the "energy" surrounding them during their life cycle.

## ***Positive Attitude***

It is important for the growing facility staff to leave negative energy at the door and come to work positive and happy. Plants can pick up on human energy and are affected by it.

## ***Living Water and Soil***

Both soil and water should always be living to reach maximum macro and micro nutrient absorption. See "water" section.

## ***Sun Energy***

While it would be great to utilize the sun alone, cannabis gardening must be done indoors for security and discretionary purposes. Innovation in lighting plays a key role in quantum cannabis gardening. The QC gardener is always watching the latest technology with a patient eye. In QC gardening, the best light to replace the sun is the light that produces the most grams per watt per sq. ft. and produces excellent quality finished product.

---

## Cannabis Basic Needs

---

Plants need air, water, and light to produce glucose for energy. Cannabis will only grow as fast as its most limiting factor. As each element increases in strength, so shall the other elements to reach MGP. We strive to maintain a perfect balance of each element so each plant produces a consistent product. The dispensary cultivation manager shall work with each zone manager to achieve the appropriate balance of each element of plant growth to achieve maximum genetic potential.

### ***Components of photosynthesis***

Hydrogen, carbon, and oxygen are essential non-mineral elements necessary for plant growth as all play major roles in photosynthesis. Photosynthesis is a process used by plants and other organisms to convert light energy, traditionally from the sun, into chemical energy that later can be utilized to fuel the organisms' activities. Light energy is used to form glucose from CO<sub>2</sub> taken in by leaves and water taken in through the root system. Oxygen, which humans breathe, is a bi-product of plant respiration.

### ***Air (CO<sub>2</sub>, Carbon)***

Absorbed by the plant leaf, CO<sub>2</sub> plays an essential role in the photosynthesis process. CO<sub>2</sub> levels must be increased to optimal levels in order for plants to achieve their full potential. 390 ppm is the average amount of CO<sub>2</sub> in the air outdoors, however, indoors, under optimal light and nutrient conditions, plants can benefit from CO<sub>2</sub> levels up to 1500 ppm. Each zone manager is responsible for checking air quality daily and reporting any variances to the dispensary manager.

- **Stomata**

As part of the photosynthesis process, plants take in CO<sub>2</sub> and other nutrients through tiny holes in the leaf surface called stomata. Be aware that spray pesticides can clog up stomata. Each zone manager is responsible for utilizing ethical pest management (EPM) practices.

- **Temperature**

Plants uptake more CO<sub>2</sub> in warmer environments, however, cannabis quality also diminishes at higher temperatures; therefore, we utilize a comfortable mid- range temperature no higher than 78° F/ 25.5° C. Each zone manager is responsible for keeping temperature at the above-mentioned temperatures. All variances shall be reported to the dispensary manager.

- **Humidity**

Plants thrive in humid conditions. To avoid fungal issues, humidity must be kept in the mid-range. Each zone manager is responsible for keeping humidity at or lower than 55% in vegetative zones, and 45% in flowering zones. Zone managers will report any humidity variances to the dispensary manager.

- **CO2**

CO2 level should be maintained at or below 1500 in all flowering rooms and 1,000 in all vegetative rooms unless otherwise dictated by the dispensary manager. Each zone manager is responsible for monitoring CO2 levels within their respective zone and reporting any variances to the dispensary manager.

## ***Water (H<sub>2</sub>O, Hydrogen and Oxygen)***

Water is taken in through the plant's root system and is a necessary ingredient for photosynthesis. Water provides hydrogen and oxygen, two critical requirements for proper plant health, and works as a transport agent for nutrients. Each zone manager is responsible for preparing water that is ready to be fed directly to or mixed with nutrients, compost teas, beneficial microbes and/or other biological controls.

- **Initial water quality**

The dispensary manager will determine the initial water quality in order to implement an adequate filtration process. Reverse osmosis is only recommended as a last resort as it removes all micronutrients from water. In the event reverse osmosis must be used, the dispensary cultivation manager shall ensure an adequate replacement formula to meet all plant requirements.

- **Determining a plant zone's optimal watering schedule**

Over-watering and under-watering can be detrimental to a plant's health. The dispensary cultivation manager shall train each zone manager to properly assess the watering needs within each plant zone. In traditional soils, place your finger two inches below the soils surface; if it feels dry, water is needed. In a semi-soilless mix, the medium should maintain a moist feeling without feeling soggy.

- **Under-watering**

If plants wilt prior to watering, and the soil is dry, plants are severely under-watered. If plants wilt immediately after watering, it is also likely they are being under-watered.

There are two solutions to under-watering: increase water amount, or watering intervals. The dispensary cultivation manager shall work with each zone manager to assess the watering requirements within each zone and achieve the proper growing medium moisture level for the purpose of maintaining healthy plants.

- **Over-watering**

Over-watered plants will also wilt, however, the medium will be very soggy vs. dry. Over-watering plants, in effect, drowns them and stunts overall growth by hindering proper root development. If it is determined a root zone is over-watered, it is imperative to allow the medium to fully dry and then begin to re-moisturize slowly just as if the plant were recently transplanted. The addition of mycorrhizae and nutrient teas can help re-invigorate a plant's root zone and decrease the recovery time after over-watering has occurred. The dispensary manager shall work with each zone manager to avoid and correct over-watering scenarios.

- **Water prep:** Each zone manager is responsible for preparing the water to be used for plant cultivation within his or her respective zone. Preparing water is a two-part process:
- **Filtration:** All water should be filtered through, at a minimum, a two-stage filtration process. Water should be filtered a minimum of 24 hours in advance to prepare for aeration.
- **Living Water:** All water should be brought to “life” by properly aeration. Air-stones shall be placed at the bottom of all water reservoirs after water has been properly filtered. Aeration time is a minimum of 24 hours.
  - **Vortex:** When mixing nutrients, water shall be stirred in an alternating clock-wise and counter clockwise motion. When water is stirred in a vortex motion, it becomes electrically charged and allows for better nutrient absorption. All zone managers shall utilize a vortex motion while mixing solutions to be applied to crops.
  - Vortex mixing instructions: Stir 20 seconds until a vortex occurs in one-direction and then reverse the direction

## ***Optimal pH***

Cannabis absorbs available nutrients best in the pH range of 5.8-6.5. The plants' pH shall be checked before and after mixing nutrients and adjusted accordingly by the zone manager for each respective zone. Cannabis absorbs nutrients better in slightly more alkaline conditions when in soil rather than in hydroponic gardens.

## ***Lighting***

Light provides the energy to turn water and CO<sub>2</sub> into usable plant food (glucose) and oxygen during photosynthesis. When the optimal lighting spectrum and strength combine with CO<sub>2</sub>,

large amount of nutrients can be taken up through the plant's root system and used for vigorous growth. The dispensary cultivation manager shall work with each zone manager to monitor lighting and ensure the intensity and photoperiods are maintained at all times.

- **HID lighting**

High Intensity Discharge (HID) lighting is currently the best replacement for the natural sun, which is by far the best light for production, taste, terpene profile, and root formation. Producers of agricultural lighting products have created HID lighting to attempt to mimic the sun for indoor growing purposes.

- **HPS**

High Pressure Sodium (HPS) lighting has been the go to light for vigorous growth indoors for years. Traditional HPS produces the most intense light and helps plants reach a large size and produce large amounts of resinous flowers. Recently LED lighting has proven itself to be a slightly better choice than traditional HPS, however, new HPS technologies have surpassed current LED lights in production capacity.

- **Traditional HPS lighting**

Traditional HID lighting is no longer an effective option for the emerging cannabis market where the environment and cost must be taken into account for large cannabis dispensary.

- **High Frequency HPS lighting**

HF HPS lighting with newer double-ended lamps are currently the most efficient light available for cannabis production. The light produced from lamps such as Gavita and E-Papillion actually registers a slightly higher PAR value than the natural sun. The dispensary shall utilize HF HPS throughout all flowering zones in order to optimize energy consumption and produce the highest quality cannabis with consistent dosage.

- **Metal Halide**

Metal halides have always been an excellent light source for vegetative growth. Metal halides with blue spectrum create dense growth, large green fan leaves, and short internode length. Plants that vegetate under blue spectrum metal halide can easily achieve MGP. 1,000 watt blue spectrum metal halides shall be used for late vegetative growth in the V3 zone in order to prepare plants to go under 1,000 watt HF HPS lighting in their designated flowering zone.

- **T5 Florescent Lighting**

T5 florescent lighting is perfect for areas where heat and ceiling height may be an issue and where small plants, clones, or mother plants are being grown. T5 fluorescents save energy and produce healthy plants. T5s shall be utilized in the hot house for cloning and in mother plant zones of the dispensary.

- **LED lighting**

LED lighting has passed the traditional HPS lighting for flowering cannabis plants, however, it is not quite on par with HF HPS. LED shall be utilized in the V2 section of the dispensary for the second phase of vegetative growth. Additionally, one flowering room will act as a research and development center to continue to test new LED products as they hit the market to determine their efficiency. Once they are proved, the entire facility shall eventually utilize LED lighting.

- **Induction Lighting**

Induction lighting has been developed specifically for plant cultivation and currently is very useful in the vegetative phase. However, due to the high cost associated with it, it is still in the R & D phase and shall be tested in the V2 zone along with LEDs.

- **Photosynthetic Spectrum**

An efficient lamp will turn as much energy as possible into photosynthetic energy. The only light plants use for photosynthesis appears within the PAR (photosynthetic active radiation) region. The PAR region occurs from 400 to 700 nm within the light spectrum. As you can see on the chart below, the main spectrums of usable light for the cannabis plant are blue and red. The light spectrum (color blend) strongly influences the development of the plant.

Blue spectrum lighting promotes dense growth and short internode length. Metal halide lights with high quality blue bulbs are recommended for vegetative growth. High intensity fluorescent lights are recommended in the smaller/early stages of vegetative growth and mother quarantine sections to save energy and reduce heat. Newer lights such as LED have a more balanced light spectrum and will soon surpass traditional metal halides for vegetative growth.

Red spectrum lighting promotes large plants with big beautiful blooms. Red spectrum lights provide more intensity for the later stages of plant growth and are currently recommended for flowering. Traditionally, HPS lights have been used. If

the dispensary is using traditional HPS, the dispensary cultivation manager shall ensure the bulbs are replaced every six months with new high quality bulbs such as the Hortilux 1000-watt HPS bulb.

Hybrid lighting Plants grow best in a mix of red and blue light. Currently, LED lighting appears to have the best spectrum potential, however, the intensity is still not quite on par with newer high frequency HPS technology. Newer double-ended bulbs designed for lights like the Gavita and e-Papillion have a more balanced spectrum and should be used in all flowering spaces where heat is not an issue.

- **Light Intensity requirements**

The dispensary facility manager shall ensure lighting intensity is maintained throughout the plant growing cycle. The dispensary manager shall ensure all lamps within each flowering area of the dispensary are providing 1500 umols within the propagation range.

**Measuring light intensity:**

The dispensary facility manager shall utilize a light meter that measures light in micromoles such as the apogee to measure lighting intensity.

A lighting strength inspection shall be done monthly by the respective manager with in each zone.

- Micromoles: Micromole is a quantum unit, which quantifies the number of photons used in photosynthesis by measuring the amount of photons that fall within one square meter. Plants grow faster and stronger in conditions up to 1500 umol. Plants continue to up take more water up to 2000 umol, however plant health begins to decrease above 1500 umol.
- DLI: Daily light integral is the measurement of micromoles plants receive in a 24-hour period. Plants that receive a low DLI typically show delayed growth and development.

- **Photoperiod**

The photoperiod is the length of the day that plants are exposed to photons. Cannabis flowering is influenced by the photoperiod so it must be constantly maintained to avoid plant stress. The dispensary manager shall work with each zone manager to ensure all flowering zones receive 12 hours of un-interrupted darkness and that each vegetative zone receives a minimum of 18 hours of light throughout each day.

---

# Plant Nutrients

---

## **Food (nutrients)**

While plants can survive on their basic needs alone, cannabis plants grown under optimal conditions will need nutritious food to thrive and reach MGP. It is the dispensary manager's responsibility to utilize a precise feeding schedule to ensure plant nutrient needs are met throughout all growth phases.

## **Primary Macronutrients**

Nitrogen, Phosphorous, and Potassium (NPK) are the three macronutrients required to cultivate healthy cannabis plants. It is the dispensary manager's responsibility to ensure all cannabis plants receive sufficient NPK. NPK can be found in all high quality base nutrients and multiple organic additives such as guano.

- **Nitrogen (N)**

Cannabis uses more nitrogen than any other nutrient. Nitrogen is most important in the vegetative and early flowering phases of the cannabis life cycle. Nitrogen helps plants produce chlorophyll, which gives plants their green color and is essential for photosynthesis. When a plant is deficient in nitrogen, its lower leaves will start to turn yellow and die. The dispensary cultivation manager shall work with each zone manager to monitor for nitrogen deficiency.

- **Phosphorous (P)**

Cannabis plants use phosphorous to create necessary chemicals during all stages of plant growth; however, cannabis requires higher phosphorous levels during floral development in the flowering stage. When plants are deficient in phosphorous, the stems will turn purple and growth vigor will decline. The dispensary cultivation manager shall work with each zone manager to monitor for phosphorous deficiency.

- **Potassium (K)**

Potassium plays a major role in chemical synthesis and metabolism within the cannabis plant. Having the correct amount of potassium in your plants gives them sturdy and thick stems, makes them disease resistance, and aids in water respiration as well in photosynthesis. Potassium is necessary for water transportation throughout the entire plant, and is utilized during all stages of growth, especially in flower formation. Lack of potassium can make plants vulnerable to diseases such as mold, fungus and mildew. Red stems, declined plant vigor, along with the previously mentioned diseases are all

signs of a potassium deficiency. Be careful not to confuse a genetic trait of the plant (red stems) alone as a deficiency. The dispensary cultivation manager shall work with each zone manager to monitor for potassium deficiency.

**Understanding nutrient labeling:** Nutrient containers display nutrient levels in NPK ratios, such as 10-10-10, located on the front label. Nitrogen is always the first number followed by phosphorous and then potassium. A numerical display of 10-10-10 means the solution contains equal parts of all three nutrients and each nutrient is at a concentration equal to 10% of the solution's weight.

## **Secondary Macronutrients**

Calcium, Magnesium, and Sulfur (CaMgS) are necessary in sufficient levels to reach MGP. The secondary nutrients promote plant growth and overall health. CaMgS are generally found in high quality soil, however, soil often lacks sufficient amounts to keep rapidly growing cannabis plants healthy throughout the entire life cycle so supplements and or soil additions are recommended. The dispensary cultivation manager shall plan the nutrient feeding schedule and soil mixture accordingly to avoid problems associated with calcium, magnesium, or sulfur deficiencies.

- **Calcium (Ca)**

Calcium is a part of the cell wall development in the cannabis plant. It strengthens the stems and branches of cannabis and helps in the formation of the root and its tip's growth. A calcium deficiency causes rust spotting on leaves and impedes root system development. A high quality calcium supplement is a must to avoid problems before they can adversely affect plant health and overall yields. The dispensary cultivation manager shall work with each zone manager to monitor and avoid calcium deficiencies.

- **Magnesium (Mg)**

Magnesium influences the formation of chlorophyll, which gives plants their green color and acts as a light absorber during photosynthesis. Magnesium also affects most enzymatic reactions within plants. The structures within cannabis plants (leaves and the veins) are healthy due to this element. Yellowing combined with leaf curl (especially upward) are signs the plant needs more magnesium. We will include a good magnesium supplement in the feeding schedule to keep plants happy and healthy. The dispensary cultivation manager shall work with each zone manager to monitor and avoid magnesium deficiency.

- **Sulfur (S)**

Sulfur participates in the formation of chlorophyll and the growth of the plant. The deficiency is presented by slower rates of growth along with pale green or yellow color on the top of the plant where new growth appears. The leaves on cannabis plants lacking sufficient sulfur will develop a mutation that causes them to round and roll upwards. The dispensary cultivation manager shall work with each zone manager to monitor and avoid sulfur deficiency.

**Micronutrients (trace elements)**

Micronutrients are very important to overall plant health and are necessary when attempting to achieve MGP. The cannabis plant uses micronutrients in very small quantities. Most high quality soils contain micronutrients, however, adding more throughout the growing cycle is a good step towards preventing future health problems that can be hard to troubleshoot. The dispensary manager is responsible for utilizing teas and organic additions within the feeding schedule to meet the cannabis plants' micronutrient needs

- **Micronutrient list**

Micronutrient deficiencies can be difficult to diagnose, therefore, prevention is the best medicine. The dispensary cultivation manager shall utilize the proper soil amendments, compost teas, and/or synthetic additives to ensure that all cannabis produced will have sufficient quantities of the following micronutrients to reach MGP:

<p><b>Essential mineral elements</b></p>	<ul style="list-style-type: none"> <li>• Iron</li> <li>• Manganese</li> <li>• Boron</li> <li>• Zinc</li> <li>• Copper</li> <li>• Molybdenum</li> </ul>
<p><b>Beneficial mineral elements</b></p>	<ul style="list-style-type: none"> <li>• Silicon</li> <li>• Sodium</li> <li>• Cobalt</li> <li>• Selenium</li> </ul>
<p><b>Essential non-mineral elements</b></p>	<ul style="list-style-type: none"> <li>• Hydrogen</li> <li>• Carbon</li> <li>• Oxygen</li> </ul>

## **Nutrient Sources and Preparations**

There are two main ways to meet the nutrients requirements of plants: organic and inorganic fertilizers. These two ways of feeding plants can be used alone or combined to form hybrid formulas. Combining these two methods is recommended when growing indoors under optimal conditions and will help each plant reach its maximum genetic potential. The dispensary cultivation manager shall determine the nutrient formula to be used throughout each stage of the cultivation process. It is important to note that plant nutrients, especially nitrates commonly found in cannabis fertilizers, can create problematic issues for natural habitats and for human health if they leach into groundwater. For this reason and to conserve water, the dispensary cultivation manager shall strive to achieve minimal run off throughout the cannabis feeding process. Nutrients used in dispensary operations must be appropriate for use in food production.

Dispensary cultivation operations must follow the manufacturer's application, storage, and disposal recommendations for the nutrient product. Dispensary operations must not return unused rooting hormone to the source container.

Nitrate-based and other oxidizing fertilizers must be stored away from solvents, fuels and pesticides.

- **Inorganic and Synthetic Nutrients**

Inorganic and synthetic nutrients meet the plant nutrient requirements through immediate absorption through the plant's root system. These instantly bio-available nutrients have advantages in an indoor growing environment as they can be adjusted to meet a plant's nutrient requirements quickly to avoid and correct nutrient deficiencies, and aid in reaching MGP.

### **How to properly mix synthetic nutrients:**

Always mix nutrients into water one at a time. The appropriate zone manager shall mix all nutrients. The manager will use a reservoir with the appropriate amount of living water, measuring devices, and a stirring rod and will follow these steps:

- Determine nutrient formula to be used
- Make sure lid is closed tightly on nutrient container and shake vigorously to mix nutrients
- Measure and add part A of the base nutrient
- Replace lid on nutrient container
- Stir nutrient solution in a vortex motion; allow nutrient 10-15 minutes to fully mix into water
- Shake, measure and add part B, vortex
- Shake, measure and add any other base nutrients, vortex
- Make sure all nutrient lids are sealed tight

- Check and adjust pH level to 5.8-6.3
- Measure and add remaining supplemental nutrients, enzymes, or beneficial microbes one at a time, and vortex thoroughly

- **Organic Nutrients**

Traditional organic nutrients are mixed into soil and must break down over time providing the full spectrum of nutrients required for plant growth. Microbial life plays an essential role in breaking down organic matter in soils and making fresh humus that contains all elements for healthy root systems and plants. Teas are highly recommended to supply fresh microbes and nutrients needed throughout the plant's life cycle. Top packs and spikes can also be utilized to provide nutritional component for plant growth later in the life cycle. Traditional organic gardening is consistent with TLO or true living organic gardening.

Newer bottled organic nutrients are often further processed and provide readily bio-available nutrients along with soil enhancers. These nutrients can be used alone in an inert substrate or used in combination with traditional organic methods to improve growing time and correct deficiencies.

- **Organic Compost Teas**

Compost teas should be used bi-weekly to ensure there is a healthy microbial level within the growing medium. Each zone manager shall utilize the appropriate tea recipe for each phase of the cannabis life cycle. Teas shall be applied on a two- week schedule. Teas feed the microbial life in the soil and create healthy plants that resist disease, yield more, and produce consistent cannabis with an excellent terpene profile.

**Basic tea requirements:** Five-gallon bucket, living water, air pump, worm castings, humic acid, sea kelp, earth worm castings

**Procedure for making compost teas:**

- Fill bucket half way with water
- Place air pump (bubbler) in bucket and turn on
- If water is not already alive (see living water) allow water to bubble for a minimum of 24 hours to de-chlorinate
- Place the following ingredients into the water: two tablespoons molasses, two ounces sea kelp, and two ounces humic acid
- Place 1 pound earth worm casting into a sock or similar tea bag, and place bag into the water
- Allow water to bubble and brew for 24-48 hours
- Dilute tea into 40-50 gallons of living water and apply to soil or as a foliar spray

- **Top Packs**

Mitigating plant deficiencies and increasing production capacity can be done organically through the use of top packs. Super soils with organic nutrients built in will only maintain maximum plant growth until the plant has used up the nutrients. Top packs can be applied half way through the flowering cycle to ensure the plant has all nutrient needs met and produces the highest quality end product.

**Procedure for applying top packs:**

- Determine appropriate amount for container size ( $\frac{1}{4}$  cup per gallon of substrate)
- Mix three bat guanos together to equal appropriate measurement
- Apply to the top of the soil mixture
- Water with living water

- **Spikes**

Spikes are small compact nutrient zones into which roots can grow and use additional nutrients as needed by the plant. Flavor bombs are pre-made spikes and are a good way to prevent deficiencies and provide maximum growth, quality, and consistency.

**Procedure for adding spikes:**

- Add spikes when transplanting into final container for flowering phase.
- Determine the appropriate amount for container size (1 spike (flavor bomb) per gallon)
- Place spikes evenly throughout the planting medium
- Water in as plant needs

- **Organic Bottled Nutrients**

Organic bottled nutrients can be used to maintain nutrient needs as the plant grows larger and nutrient requirements increase. In 100% organic growing, all nutrients shall be OMRI listed organic nutrients.

- **Hybrid organic/synthetic formulas**

Hybrid growing formulas combine aspects from both organic and synthetic growing styles. Hybrid methods are superior to either method separately in producing high yielding cannabis plants that still have great flavor and terpene profiles. Hybrid growing would utilize a light organic potting medium.

## ***Nutrient Deficiencies Common for Cannabis***

- **Calcium Deficiency**

Calcium helps provide structure to the cannabis plant and helps it withstand stress. A calcium deficiency can sometimes be difficult to diagnose since it is often accompanied by magnesium, iron, and/or other deficiencies. Calcium moves relatively slowly through the plant, so calcium deficiencies tend to show up in newer growth (upper leaves) and middle vegetative growth. Calcium deficiencies are more likely to appear with filtered or reverse osmosis water, because tap water has enough calcium to prevent deficiencies. Supplementing soil-less grow mediums with lime will prevent calcium deficiencies. Because a calcium deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating calcium deficiencies.

### **Treatment Plan:**

1. Check pH. Calcium is best absorbed by the roots in the 6.2-7 pH range.
2. Flush the plants with clean, properly pH adjusted water with a regular dose of nutrients that includes calcium. This will remove any nutrient salts that may be affecting the uptake of calcium and help restore pH.
3. Check plant to make sure new growth does not contain calcium deficiencies. Old, damaged growth will not recover.
4. If deficiencies continue, feed the plant with Cal-Meg, a calcium and magnesium supplement.

- **Copper Deficiency**

Copper deficiency in cannabis plants is rare and manifests itself as leaves curling back, lack of growth, and unusual dark coloring of the leaves. Copper doesn't move easily through the plant and is considered low mobile. Leaves will appear dark, with purple or blue undertones and a metallic sheen.

It is very unlikely that there is no copper available in the water or soil, so usually a copper deficiency in cannabis is caused by a pH problem at the roots that is restricting access to nutrients. Copper deficiency is often a problem with another nutrient or with the pH that causes the plant to appear deficient.

Copper toxicity (too much copper) in cannabis plants is rare, though a severe case of too much copper can cause cannabis plants to suffer die. Because a calcium deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating calcium deficiencies.

### **Treatment Plan:**

1. Check pH. The roots in the 6-7 pH range best absorb copper.
2. Flush the plants with clean, properly pH adjusted water with a regular dose of nutrients.
3. Check plant to make sure new growth does not contain copper deficiencies. Old, damaged growth will not recover.

- **Iron Deficiency**

Iron deficiency in cannabis is relatively rare, and the symptoms of a cannabis iron deficiency appear most often alongside other nutrient problems or deficiencies. The main symptoms of an iron deficiency are yellowing of upper fan leaves and yellowing of smaller inner leaves while the veins of leaves stay green. Sometimes affected leaves will even appear white. Often the symptoms appear near the top of the plant on newer leaves. This nutrient deficiency can look similar to a magnesium deficiency, but an iron deficiency will affect younger/upper/inner leaves (where a magnesium deficiency affects older/lower leaves). Because an iron deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating iron deficiencies.

**Treatment Plan:**

1. Check pH. Iron is best absorbed by the roots in the 6-7 pH range. Iron tends to get locked out at higher pH levels. Keep pH levels under 6.5 to help flush the plant.
2. Flush the plant with clean, properly pH adjusted water with a regular dose of nutrients that includes Iron. This will remove any nutrient salts that may be affecting the uptake of iron and help restore pH.
3. Check plant to make sure new growth does not contain iron deficiencies. Old, damaged growth will not recover.

- **Nitrogen Deficiency**

Nitrogen deficiency will cause the older, lower leaves on the plant to turn yellow, wilt away and eventually die. The yellow leaves of a nitrogen deficiency may show signs of brown, and they will usually become soft before turning crispy and falling off on their own. Nitrogen is a mobile nutrient, which means it can move throughout the plant as needed. Cannabis needs nitrogen to keep leaves green and make energy from light. All new leaves get plenty of nitrogen to make them green and help with photosynthesis. If new leaves aren't getting enough nitrogen, the plant will start to "steal" nitrogen from the older, lower leaves, so that it can give it to newer leaves. This is what causes the yellowing and wilting of a nitrogen deficiency. Because nitrogen deficiencies are expected during the late flowering stage, the vegetation Cultivation Team is most responsible for identifying and treating nitrogen deficiencies.

**Treatment Plan:**

1. Check pH. The roots in the 6-7 pH range best absorb nitrogen.
2. Flush the plants with clean, properly pH adjusted water with a regular dose of nutrients that includes nitrogen.
3. Check plant to make sure new growth does not contain nitrogen deficiencies. Old, damaged growth will not recover.

- **Phosphorus Deficiency**

Phosphorus deficiencies in the vegetative stage usually appear at the bottom of the plant on some of the oldest leaves, and will progressively climb up the plant if left unchecked. New leaves may be smaller than average or look twisted or stunted. When there is a phosphorus deficiency, the lower (oldest) leaves will sometimes turn dark green, occasionally with a bluish or bronze tinge, and may thicken or curl downward before exhibiting dark gray, bronze or purplish splotches. A common symptom of a cannabis phosphorus deficiency is red or purple stems. It's important to remember that some cannabis strains naturally grow with red or purple stems even when all their nutrient needs are being fulfilled, so red or purple stems is not a symptom to worry about on its own.

In the flowering stage, a cannabis phosphorus deficiency usually manifests near the buds that are being hit with strong, direct light. Cannabis plants use phosphorus heavily in the flowering phase to produce flowers, and are a crucial component of photosynthesis (turning light into energy for the plant). A phosphorus deficiency is most common in the flowering stage when plants are under very bright light, and cannabis is constantly using up phosphorus in the process of building buds and making energy from light. In the case of a cannabis phosphorus deficiency in the flowering stage, the leaves, which are not getting hit by direct light, will usually remain green. The leaves directly under the light and nearest to the buds are the first to turn reddish or yellow as they display the signs of a phosphorus deficiency. Because a phosphorus deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating phosphorus deficiencies.

**Treatment Plan:**

1. Check pH. Phosphorus is best absorbed by the roots in the 6.2-7 pH range.
2. Overwatering and wet, compact soil can trigger a phosphorus deficiency. Check the soil for too much moisture.
3. Flush the plant with clean, properly pH adjusted water with a regular dose of nutrients that includes phosphorus. This will remove any nutrient salts that may be affecting the uptake of phosphorus and help restore pH.
4. Check temperatures in the grow room. Cooler temperatures and large temperature swings can make it difficult for the plant to absorb phosphorus.
5. Check plant to make sure new growth does not contain phosphorus deficiencies. Old, damaged growth will not recover.

- **Potassium Deficiency**

Potassium deficiency causes older leaves turn yellow then start getting dark, with scorched lesions around the edges of the leaves. Plants may stretch and stems may become weak. The symptoms are very similar to an iron deficiency except the tips of the leaves curl as the edges burn and die.

Potassium deficiency can occur at any stage of growth, therefore the entire Cultivation Team is responsible for identifying and treating potassium deficiencies.

**Treatment Plan:**

1. Check pH. Potassium is best absorbed by the roots in the 6-7 pH range.
2. Flush the plant with clean, properly pH adjusted water with a half dose of nutrients that includes potassium. This will remove any nutrient salts that may be affecting the uptake of potassium and help restore pH. Potassium isn't absorbed properly where there is too much calcium or nitrogen in the plant, so the half dose will flush out extra nutrients that cause lock out.
3. Check plant to make sure new growth does not contain potassium deficiencies. Old, damaged growth will not recover.

- **Magnesium Deficiency**

A light green or yellow coloring will begin to show on the veins and edges of the lower and older leaves. Magnesium is a mobile nutrient, which means that the plant can move it from old leaves to new leaves.

The plant will pull magnesium out of older leaves and bring them to the newer leaves. That's why a magnesium deficiency usually appears towards the bottom of the plant and on older, less important leaves.

The edges of the leaves may become yellow or bright green and may start feeling crispy to the touch. This crispiness around the edges is different from nutrient burn, which does not lighten the margins inside the leaves.

Because a magnesium deficiency can occur at any stage of growth, the entire Dispensary Cultivation Team is responsible for identifying and treating magnesium deficiencies.

**Treatment Plan:**

1. Check pH. Magnesium is best absorbed by the roots in the 6-7 pH range.
2. Flush the plant with clean, properly pH adjusted water with a regular dose of nutrients that includes magnesium. This will remove any nutrient salts that may be affecting the uptake of magnesium and help restore pH.
3. Check plant to make sure new growth does not contain magnesium deficiencies. Old, damaged growth will not recover.

- **Sulfur Deficiency**

Sulfur deficiency will manifest itself as all-over chlorosis (yellowing of leaves), usually starting with the newer leaves and at first may look like a nitrogen deficiency. The parts underneath the leaves may take on a pinkish red or orange color. The buds on a flowering plant may start dying off. Unlike most other deficiencies that cause chlorosis, a sulfur deficiency will start at the back of the leaf and move its way forward as opposed to starting at the tips.

Because a sulfur deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating sulfur deficiencies.

**Treatment Plan**

1. Check pH. Sulfur is best absorbed by the roots in the 6-7 pH range.
2. Flush the plant with clean, properly pH adjusted water with a regular dose of nutrients that includes sulfur. This will remove any nutrient salts that may be affecting the uptake of sulfur and help restore pH.
3. Check plant to make sure new growth does not contain sulfur deficiencies. Old, damaged growth will not recover.

- **Zinc Deficiency**

Plants with zinc deficiency, younger leaves start yellowing in between the veins. Leaf tips get discolored and start dying. Cannabis plant leaves will take a unique banded appearance and the plant will stop growing vertically. There will be much less space between new nodes which will cause all the new leaves to start bunching together. If the plant is budding, its flowers may start dying. Because a zinc deficiency can occur at any stage of growth, the entire Cultivation Team is responsible for identifying and treating zinc deficiencies.

**Treatment Plan:**

1. Check pH. Zinc is best absorbed by the roots in the 6-7 pH range.
2. Flush the plant with clean, properly pH adjusted water with a half dose of nutrients that includes zinc. This will remove any nutrient salts that may be affecting the uptake of zinc and help restore pH.
3. Check plant to make sure new growth does not contain zinc deficiencies. Old, damaged growth will not recover.

- **Manganese Deficiency**

Cannabis Plant leaves may become yellow in between the veins, with mottled brown spots on the affected leaves. These brown dead patches may spread and eventually kill the leaf. Leaves may also shred and fall apart. Overall growth of the cannabis plant may be stunted. With a manganese deficiency, the yellowing will begin at the base of the leaf and move outwards towards the tips. Because a manganese deficiency can occur at any stage of growth, the entire Dispensary Cultivation Team is responsible for identifying and treating manganese deficiencies.

**Treatment Plan:**

1. Check pH. Manganese is best absorbed by the roots in the 6-7 pH range. Higher pH ranges are where manganese deficiencies are more likely to occur.
2. Flush each plant with clean, properly pH adjusted water with a regular dose of nutrients that includes manganese. This will remove any nutrient salts that may be affecting the uptake of manganese and help restore pH.
3. Check plant to make sure new growth does not contain manganese deficiencies. Old, damaged growth will not recover.

---

## Growing Medium (substrate)

---

### ***Think Like a Root!***

The growing medium is where the plant's root system thrives, and healthy roots form the foundation for healthy plants. Selecting the best growing medium is one of the most important considerations in cannabis plant production. A growing medium can be defined as a substance through which roots grow and absorb hydrogen, oxygen, and nutrients. Roots want to live in moist humid air pockets, which is important to keep in mind when placing media in a container as it can produce an environment drastically different from that of soil found in nature. Plants living in containers have access to a very limited amount of growing medium. This limited rooting volume means that cannabis plants only have access to small amounts of water and mineral nutrients. Additionally, water and nutrients in this limited space can be used very quickly. Most traditional containers only drain from the bottom so proper drainage must be established within the container by utilizing rocks on the bottom layer of all containers. Soils in nature also contain microorganisms, such as bacteria and fungi, which do not exist in artificial growing media. The texture of any growing medium should contain structures that create porosity; think of all the tiny rocks and other additions to naturally occurring soil. Texture and porosity of all cannabis mediums should allow drainage while maintaining the proper balance of moisture resulting in flourishing root zones that can absorb ample amounts of nutrients. The cultivation team should always strive to achieve optimal root zone conditions. The dispensary cultivation manager shall train each zone manager in proper media building in order to meet the needs of the plants within the facility.

Earth (living) characteristics of a perfect growing medium: Naturally occurring soils are truly a living microenvironment. All mediums except for hydroponic should possess the following physical, chemical, and biological properties in order to grow the healthiest plants and reach MGP soil.

### ***Physical Properties of Growing Medium***

The dispensary cultivation manager shall ensure each zone manager has an appropriate balance of physical properties to achieve the best structure for root development and growth.

- **Aeration/porosity**

Naturally occurring soils contain textured materials such as rocks and shells that provide adequate drainage, pockets of oxygen, and chelate into usable nutrients.

Microbes thrive in tiny porous holes that are provided by substrate additions such as perlite and lava rocks. We will use an array of different size textured materials to create humid air pockets for roots and numerous porous surfaces to hold oxygen and grow microbes.

- **Aeration/porosity components of soil**

The following components of growing media will provide aeration and porosity thus allowing drainage, oxygenation, and microbial growth resulting in a healthy root zone and robust plant:

- Perlite
- Lava rocks
- Hydroton
- Worm castings

- **Moisture/water holding capacity**

A good growing medium will have ample water holding capacity and still be porous enough to allow excess water to drain away. In cannabis gardening, coconut coir is a perfect inert substrate that will hold water. We will work diligently to provide the perfect balance between water holding capacity and drainage by utilizing a mix of absorbent substrates and porous substrates.

- **Moisture/water holding components of soil blends**

The following components will provide water-holding capacity and should be used in balance with porous additions to maintain the proper moisture/oxygen/nutrient balance within the root zone:

- Coco coir
- Potting soil
- Peat moss
- Humus soil

## ***Chemical Properties of Growing Medium***

The dispensary cultivation manager shall work with each zone manager to ensure that all growing medium has the correct chemical properties.

- **pH**

The pH of growing medium is a measure of its relative acidity or alkalinity. pH values range from 0 to 14. Growing mediums below 7 are acidic, and those above 7 are alkaline. Cannabis thrives in a substrate pH of 6.0-6.5. The substrate pH affects the plant's ability to utilize nutrients within the root zone. For example, phosphorus availability is less in low pH conditions where it can bind with iron and aluminum. At high pH levels, phosphorous will bind with calcium hindering the plant's ability to use the

nutrient effectively. The effects of poor pH conditions can show up as common nutrient deficiencies or diseases and also can have devastating effects on the microbial life within the substrate. Each zone manager shall monitor substrate pH regularly and whenever adverse conditions appear within the dispensary.

- **CEC/cation exchange capacity**

CEC refers to the capacity to which a growing medium can hold positively charged ions thus resulting in the nutrient storage capacity within a given medium. Because most artificial growing media are inert, CEC capacity must be considered. Within the growing medium, plants absorb nutrients through roots via a process in which excess charged ions are exchanged for charged nutrient ions. Once cation exchange has occurred, nutrients are transported to the foliage where they are used for growth and development by the plant. Because the CEC of a growing medium reflects its ability to hold nutrients for plant uptake, substrates with a relatively high CEC are recommended for cultivating cannabis. The dispensary cultivation manager shall adopt a medium with the appropriate CEC for optimal plant growth.

### ***Biological Properties of Growing Medium***

A common dilemma with soil-based growing media is that it can contain a variety of pests such as pathogenic fungi, insects and weed seeds. All naturally occurring soil-based media shall be pasteurized with heat prior to being used in the dispensary. Composts and humus soils are an exception, as they remain pest free due to high temperatures that occur during composting. Compost can be added back to inert or sterilized media for their beneficial microbial components as well as trace minerals. The dispensary cultivation manager shall work with each zone manager to ensure the biology of the growing media does not promote disease or insect proliferation, however, the media shall remain healthy and stable for the development of microbial life.

- **Microbes**

Bacteria and fungus feed on each other and excrete pure humus into the soil. It is imperative to use at a minimum of 15-20% soil in planting mediums in order to provide a solid foundation for beneficial bacteria and fungal growth. These beneficial organisms provide all the quantum aspects needed within the growing substrate to ensure plants reach MGP. The dispensary manager and each respective zone manager shall manage the application of organic soil composts and teas.

- **Humus**

Humus is nature's perfect plant food and has all necessary macro and micronutrients to support vigorous root growth and a healthy plant life cycle. The soil component of all

media should contain a good source of humus. Each zone manager shall utilize humus soil within the growing media.

- **Worm Compost**

Made up from the excretions of the earthworm, worm castings are a great amendment for both the porosity of the media and the microbial life within the media. Each zone manager shall utilize worm castings in all transplant media and in the creation of compost teas to be fed throughout the plant's life cycle.

### ***Building a Quantum Semi-Soil (QSS)***

The recommended substrate for cultivating cannabis indoors is the Quantum Semi-soil. QSS combines all three properties of perfect media and results in an easy to use substrate that maximizes a plant's growing potential while mitigating the risks often associated with both hydroponic and soil gardening. Each zone manager shall prepare and utilize QSS for cultivating cannabis within their respective zone prior to transplanting plants at all stages of life except cloning.

**Tools:** Mixing tub (large kiddie pool, thick tarp, wheelbarrow, or soil mixer), flat nosed mixing shovel

**Ingredients:** Fox Farm Ocean Forrest Soil, Fox Farm Big and Chunky Perlite, Plagron Coco Coir, humus soil, worm castings. (All brands can be exchanged for other high quality brands that meet the above listed requirements for cannabis growing media).

**Ratios:** 25% soil, 25% coco coir, 7.5% humus soil, 7.5% worm castings, 35% chunky perlite

**Directions:** Starting with perlite, measure and place in mixing area. Measure and add coco coir. Measure and add humus and worm castings. Measure and add soil. Mix all ingredients with shovel or soil mixer until evenly mixed.

**Hydroponic:** Hydroponic gardening can produce vigorous crops, however, it is not recommended for medical cannabis production as it uses high doses of chemicals, is prone to fungus and disease, uses larger amounts of water, has a high nutrient cost disposal of waste water into the environment, and has a high crop failure rate due to dependence on electronic function.

**Coco coir:** Coco coir with a top drip-feeding system is the recommended replacement for hydroponic gardening as it solves every problem associated with hydroponics and can achieve similar results. Quantum semi-soil with a hybrid system utilizes coco coir as

a component while still utilizing an organic base for additional terpene profile and overall plant vigor and health.

**TLO:** True Living Organics produces the highest quality cannabis with the best terpene and flavor profiles. TLO consists of building a super soil and feeding beneficial microbes. Plants take the nutrients they need directly from the soil as time and microbial feeding and excretion release make micro and macronutrients bio-available.

---

## Cannabis Life Cycle SOPs

---

The following steps will be taken to ensure the quality of the medical cannabis, including purity and consistency of dose and the presence of potential contaminants. This includes standard operating procedures, a description of the testing process and frequency, and plans to engage with a lab to conduct the testing. The following processes also include seed to sale tracking in accordance with §11-850-61 to ensure all cannabis and cannabis products are constantly secured throughout the life cycle.

### ***Starting From Seed***

There are several methods of germinating cannabis seeds. The vegetative zone manager will work with the dispensary manager to determine when and which varieties of seeds to germinate. Our process will be as follows:

1. Determine variety to germinate
2. Prepare the necessary tools for seed germination starting with a clean container that will hold at least 8 oz. of filtered room temperature water
3. Soak the seeds in the water for 24 hours. At first, the seeds will float on the surface of the water, but as the seeds begin to germinate, their surfaces will open allowing them to take on water and sink to the bottom. The seeds on the bottom of the container are germinated and can now be planted in an appropriate medium. Log results.
4. After soaking, place the seeds between two paper towels and place the paper towels between two plates turned to face each other. Place the plates in the propagation cabinet in propagation portion of the dispensary and wait 24-48 additional hours. The seeds will be visibly germinated at this point and can be transplanted. Log results.
5. Once a seed is germinated, it will be given a unit number, batch number, tracking tag, and will be logged and entered into the SIS so tracking can begin.

### ***Planting seedlings***

Once a seed has germinated, the vegetative manager will plant the seed in a prepared medium. Seeds should always be planted in small containers to establish a basic root system before being transplanted into larger containers.

1. Prepare planting medium
2. Fill 12 oz. container three-quarters of the way full with medium
3. Remove a pinch of medium from the center leaving a hole .25 inches deep
4. Water the medium with living water
5. Place germinated seed in the small hole and cover lightly with moist medium
6. Container is labeled with tag and location and all pertinent data is recorded into the SIS
7. Place planted containers on shelves under T5 lighting
8. Check daily for sprouts
9. Once the plant is 1 inch tall, add .5 inches of medium

10. Repeat additional medium applications up to 2 times, until the plant has a sturdy base
11. Water seedlings when they feel dry at the surface
12. Transplant when plants require water daily

### ***Determining Sex in the Cannabis Plant***

Cannabis is a dioecious plant species meaning its flowers are either male or female. The zone manager responsible for the flowering of genetics from seed shall monitor flowering plants daily for signs of being male. It is important to note that even if a plant has shown white pistils coming from its branches, it could still be hermaphroditic especially if the seed origins were of a feminized variety. If a plant is determined to be male, it is either returned to vegetative for future breeding or destroyed or disposed of in a manner consistent with waste disposal procedures, and logged accordingly.

- **Male cannabis plant**

Male plants will grow distinct ball-like sacs. Once they open, a fine powder is released (pollen) that is dispersed throughout the room on the slightest breeze. The zone manager will take the most care to eliminate contamination risk when removing and destroying male plants.

### ***Sexing a Cannabis Plant***

All cannabis started from seed will be flowered in a separate and distinct section of the dispensary where pollen is not able to travel into other flowering sections of the facility and potentially contaminate other batches of cannabis. The designated flowering zone manager will oversee the flowering of all plants from seed within their designated batch.

1. Plants will be monitored daily for sign of being male.
2. Once a plant has been determined to be male, it will be removed from the flowering room and destroyed. If the plant is determined to be good for breeding, it may be cloned prior to being destroyed.
3. Remove a male by placing a plastic trash bag over the entire plant and secure the bag tightly at the bottom of the stem by the base of the plant. Cut at the base and follow green waste procedures.
4. Remove male plant from plant inventory.
5. Dispose of the plant following green waste procedures.
6. Continue to monitor remaining plants, even females, for signs of being male or hermaphroditic.
7. All hermaphroditic plants should be treated just as males and disposed of in the same manner.

## **Seed Storage**

All seeds shall be labeled, logged, sealed airtight containers and stored in the genetic storage cooler. The vegetative zone manager is responsible for seed storage.

**Feminized vs. Regular:** Feminized seeds are seeds that have been bred by forcing a female plant to become hermaphroditic and fertilize itself in order to produce an all-female crop. These seeds have a greater propensity to be hermaphrodite and must be monitored closely when flowering.

## **Cloning Cannabis Plants**

Clones are genetic copies of the mother plant therefore all mother plants must be determined suitable for cloning by the vegetative manager. The vegetative manager shall be responsible for selecting strains to be cloned in order to meet the demands of each flowering zone. Any terminal shoot at least three inches long can be turned into a clone; however, the top of the mother plant will have the freshest, softest material for cloning, and cloning from top down helps avoid mother plants that are too tall for the ceiling height within the growing space.

A mother plant is a female plant reserved in a continuous vegetative state for the purpose of taking cuttings. The cuttings from the mother plant are grown and flowered to produce the final product. The vegetative manager shall ensure that healthy mother plants are maintained at all times to ensure healthy clones through the following procedures:

- Mother plants shall be watered with a well-balanced nutrient formula that is high nitrogen.
- The mother plant shall be sufficient in size prior to cloning.
- Super cropping and topping techniques shall be followed to increase the number of cloning sites on each mother plant.
- Avoid taking too many cuttings from a mother plant; leave at least 2/3 for future cloning, and allow at least 1 week between cloning sessions for the mother to recover from stress.

**Materials needed for cloning:** Rubbing alcohol, cutting board, scissors, new razor blades, cloning gel (for organic use honey), small container, distilled or reverse osmosis (RO) water, vinyl work gloves, and cloning medium

**Cloning mediums:** Rockwool cubes, rapid rooter cubes, coco coir cups, aeroponic systems

**Procedure for taking clones:** The vegetative manager will train a dedicated zone manager for the propagation of all clones.

The vegetative manager will identify and approve a mother plant to be cloned.

- **Cloning Process**

The cloning manager will prepare all tools and surfaces by wiping them clean with 90% rubbing alcohol and will then follow this protocol:

1. Fill clean empty glass with distilled or RO water.
2. Prepare cloning medium by moistening with filtered water.
3. Take clean scissors and place them into the cloning medium 1.25 inches deep to ensure a clean hole for planting the cutting.
4. Place the cutting board on a clean stainless steel-working surface.
5. Place the cloning medium and several brand new razors next to the cutting board.
6. Select suitable cuttings, which are a minimum of three to four inches in length and have at least three leaf nodes.
7. Using scissors, remove several suitable cuttings from the mother plant.
8. Quickly cut and remove lower leaf nodes and place in the cup of water.
9. Place cup with cuttings next to the cutting board.
10. Remove cutting from the water and prepare to make a final clean cut with the razor blade.
11. Place the cutting on the cutting board and slice the base at a 45- degree angle directly below a leaf node for best results.
12. Cut and remove all lower fan leaves, any large fan leaves near the top should be cut in half.
13. Immediately dip the cut end of the clone into the cloning gel (rooting hormone), and place into the prepared growing medium. (If using an aeroponic cloner, skip the dip, and place the bare stem into the cloning machine.)
14. Place the finished tray of cuttings into the hot house or under a propagation dome. Lighting should be t5 florescent or similar.
15. Ensure humidity remains at 80% and temperature remains at 80 degrees.
16. After 7 days, remove all weak cuttings. Cuttings that are standing strong shall enter the tracking system.
17. As soon as a cutting is removed from the mother plant it shall be given a unit number, batch number, RFID tracking tag, logged and entered into the SIS so tracking can begin.

- **Watering Clones**

10-14 days after cuttings have been taken, the root system should be established enough to allow the uptake of nutrients. From this time until transplanted into containers, the cloning manager shall ensure proper care is taken to ensure healthy plants for transplanting.

When cloning medium begins to dry out, the first watering shall consist of beneficial microbes. Mix microbial mixture (Rhysotonic, or great white shark) into living water. Lightly water clones each time the growing medium achieves a 50% moisture level. Aeraponic clones shall have Rhysotonic added to the reservoir after visible roots appear. When the substrate begins to show a second sign of dryness, apply a light vegetative nutrient at 25-50% strength.

- **Cloning Hot House**

A minimum of one room within the vegetative area of the dispensary shall be maintained as a hot house. The hot house shall meet all environmental standards and be fully enabled to maintain a room temperature of 80° Fahrenheit and a humidity level of 80%.

- **Transplanting Clones**

Once a clone is fully rooted, it is ready to be transplanted and moved into the V2 zone of the dispensary. The vegetative manager will ensure all clones are transplanted, labeled, tagged with RFID and that each transfer is logged and tracked in the SIS. He/she will prepare all materials needed for transplanting and perform transplanting procedures. The following procedures shall be followed whenever transplanting:

1. Collect materials for transplanting clones: Half-gallon to two-gallon pots (size to be determined by dispensary manager), Quantum semi-soil or TLO soil, small shovel, vinyl work gloves, great white shark or similar mycorrhizae product.
2. Ensure entire working area is clean.
3. Determine the number of clones to be transplanted.
4. Fill clean pots half way with planting medium.
5. Sprinkle .25 tsp. of GWS onto surface of planting medium, lightly stir with fingers.
6. Gently place the clone into the pot, and cover the root zone and the bottom of the stem with additional soil. The stem could be covered .5 to 1.5 inches and there should be at least one inch of space remaining between the top of the soil and the top of the planting container. Do not pack the substrate; soil should be light and fluffy for the fastest root growth.
7. Ensure each plant is tagged with RFID tracking, labeled and logged into SIS, and the data recorded.

- **Watering Transplants**

Post transplanting, plants require special attention in watering to ensure proper root development. The vegetative manager shall ensure all new transplants are given water and nutrients by the following process:

1. Prepare vegetative nutrient solution.
2. Water plant's current root zone.
3. Wait until nearly dry, water entire container.
4. Wait until nearly dry, add GWS to nutrient solution, water entire container.

## ***Vegetative Phase: Setting up for Success***

The vegetative phase is incredibly important for the final outcome of the plant. During this phase, plants must create healthy root zones, a strong healthy stem, and a robust branching system. This supportive plant architecture will allow the plant to reach MGP producing large beautiful flowers.

Timeliness and consistency throughout the vegetative process will allow for accurate planning throughout the dispensary and enable patient needs to be met. The vegetative manager is responsible for preparing the plants for all future flowering zones. Each plant should reach its pre-determined full size prior to being transferred into its designated flowering zone. The vegetative manager must have full awareness of the timeliness and demands set forth by the flowering schedule and plan accordingly.

- **Early Vegetative (V2)**

During the early vegetative phase, the main focus is establishing an inner root ball within a smaller container and pruning the plant to achieve a robust branching system.

All plants in V2 will be in one-gallon containers for a three to four week period. Lighting in the V2 stage will consist of t5s, 315 ceramics, 600-watt metal halides with blue spectrum, or induction lighting.

All plants will be tracked by scanning RFID tags and documented into the SIS upon being transferred from V2 to V3. Data will be recorded.

- **Late Vegetative/Pre-flowering (V3)**

As the cannabis plant grows in size, the root zone will need to expand. When seeking to achieve MGP, the substrate demands increase to allow for larger more robust root zones. The vegetative manager shall ensure pre-flowering vegetative plants are transplanted so that there will be 25-30 gallons of substrate per flowering light. During the pre-flowering stage, plants are transplanted into the final container size to allow for larger growth. Conditions in pre-flowering need to mimic flowering conditions so plants can be prepared to produce large healthy flowers in their final phase of growth.

- **Transplanting Vegetative Plants**

Once the root zone has matured, a plant is ready to be transplanted into a larger container. A plant can only flourish while its roots zone is healthy and growing. The vegetative manager will transplant into the final phase container a minimum of two weeks prior to flowering.

**Container Size:** The vegetative manager will utilize 20-30 gallons of substrate per light for final phase growth in order to achieve MGP.

**Choosing container size:** Determine how many plants will be grown under each light in the flowering zone. Plant numbers are based on a plant growth speed; i.e. if a cannabis strain grows very slowly, the number of plants must be increased to meet the timeline of the dispensary.

Indicas typically grow slower so it is assumed there may be smaller plants per light, whereas sativa plants grow quicker so there may be fewer larger plants per light.

Once the number of plants per light is determined, calculate the amount of substrate and container size:

- 7-9 plants: 3 gallon
- 6 plants: 4 gallon
- 5 plants: 5 gallon
- 3-4 plants: 7 gallon

**Materials:** Containers, substrate (TLO or QSS), small shovel

**Transplanting process:** The vegetative manager will oversee the transplanting process as follows:

1. Thoroughly clean the transplanting area and any containers that are not new.
2. Move the batch of plants to be transplanted into the transplant area.
3. Fill several containers half way with substrate.
4. Sprinkle mycorrhizae onto surface of substrate and mix with fingers.
5. Place the stem of the plant between your fingers and turn the plant upside down.
6. If the plant does not slip out of the container with ease, gently squeeze the sides of the container.
7. Once the plant slips out, place your fingers under the root ball in the center and gently spread the roots.
8. Place the plant in the large container.
9. Using the small shovel, cover the small plant until the stem is covered a minimum of 1 inch by substrate. There should be 1.5-2 inches of space left at the top of the pot.
10. Hand water with vegetative nutrient solution.
11. Scan tag and move into the V3 zone designated for the batch. Record data.

- **Pre-Flowering (V3)**

The pre-flowering phase is the final phase of vegetative growth. During this phase, we are focused on creating a full canopy before plants enter the flowering zone. The vegetative manager shall ensure plants have strong lighting, CO2, quality nutrients, and ample space in order to gain sufficient size. 1,000-watt metal halide lamps with blue spectrum bulbs are currently recommended for this phase of growth.

Prior to being transferred from V3 to any flowering zone, all plants must have their RFID scanned and location moved within the SIS. All data will be recorded at the time of transfer.

- **Flowering F1-F20**

The designated flowering zone is where a batch will be induced into a flowering state by receiving 12 hours of un-interrupted darkness. The flowering manager shall ensure all lighting is of the highest quality, the environmental controls are perfectly set and working, and each zone remains clean. The flowering manager shall ensure proper plant manicuring and fertilization occur within each flowering zone. Flowering zones are separated into nine distinct rooms based on the average length of time plants spend producing flowers.

- **Late Flowering**

During the late flowering stage, the flowering zone manager will prepare the plant for harvest via the following processes:

**Flushing:** During the flushing phase, the flowering zone manager will stop giving plants all nutrients and instead seek to purge all remaining nutrients from the substrate by forcing fresh water through the plant's root system. The following process shall be used through each flowering zone to prepare plants for harvest and ensure the highest quality finished product:

- Determine the plants to be flushed a minimum of 14 days prior to harvest.
- Water each plant at its normal watering schedule with an abundance of fresh water.
- Sufficient run-off should be attained during each flushing session in order to strip away all remaining sugars and salts.

**Materials for flushing finished plants:** 2 gallons of living water for every gallon of substrate within each zone.

---

# Pest Control & Disease Management

---

The dispensary cultivation manager shall ensure that each cultivation team member is thoroughly trained in ethical pest and disease management and other troubleshooting to ensure that any problem within the facility is quickly remedied.

## ***IPM –Pest (and Disease) Management***

It is best to prevent pest and disease infestations altogether; IPM strives to do exactly this. The dispensary manager will maintain a healthy cultivation environment by ensuring biosecurity measures are implemented and maintained at all times.

- **Biosecurity**

In order to prevent pest and disease infestations within the dispensary it has been designed with levels of biosecurity. Upon entering the building, all persons shall step on a sanitation mat and pass through an air shower. All employees must then enter locker rooms where they change into clean uniforms and have the opportunity to shower if they have been out doors prior to coming into work. Each section of the warehouse will be compartmentalized to prevent any cross contamination between departments. In addition, within each department there shall be redundant compartments to ensure small out breaks can be contained. The Vegetative department will have three distinct phases each with two compartments, flower department will have 20 separate flowering compartments, the kitchen and laboratory shall be separate and distinct compartments, and all product processing shall be contained within distinct compartments for drying, curing, secured storage, packaging and transportation. Each compartment will be equipped with its own cooling and heating source to prevent air exchange between compartments. All employees shall remain within their designated working areas to further prevent potential chances for cross- contamination. All walls between compartments shall be adequately sealed, and all air entering the dispensary shall be screened through a high-micron filtering system.

- **Pest and Disease Control Tracking**

The dispensary manager shall keep a schedule for all pest and disease control prevention. All data pertaining to pesticide applications and other crop inputs shall be recorded and the record maintained at the dispensary for a minimum of six years. All crop input records will be made available to the department upon request. The application record will include the following information:

- Date and time of application;

- Date of start of vegetative stage of growth;
- USEPA Registration Number;
- Product name;
- Copy of the label of the applied product;
- Application site (the site shall be identified by the location legend maintained by the facility);
- Amount of product applied;
- Size of the application area;
- Name of individual making the application;
- Section for comments or special conditions related to the application.

## ***IPM Program***

- **Infestation level**

The dispensary cultivation manager shall pre-determine an action threshold for each potential pest and disease. The action threshold will determine the type of pesticide and the rate of application.

- **Prevention**

The cultivation team will follow a standard prevention protocol at all times. This protocol will include preventing pests from entering each growing space, preventing cross contamination from zone to zone, closely following environmental protocol for each zone, maintaining cleanliness standards at all times, using preventive biological/microbial controls, growing pest and disease resistant strains, and growing with organic methods and quantum cannabis methods that produce maximum plant health thus remaining resistant to pests and disease.

- **Monitoring**

Plants will be monitored daily by each zone manager. At the first sign of any pest or disease, the cultivation team shall determine a treatment protocol for the affected zone and the entire dispensary.

- **Immediate action**

Plants will be monitored for new signs of pest and disease so they can be treated immediately. Immediate action reduces the chance of complications within the growth cycle that will reduce quality, yield, and consistency of dose. Immediate action also reduces the amount and frequency of pesticide applications.

*Only those agents who have been approved by the department, obtained a license from the department, and have gone through the full IPM training process shall be permitted to make pesticide applications at the dispensary.*

## **IPM Training**

The dispensary cultivation manager will train all vegetative agents in IPM practices and the proper application standards for all crop inputs. All individuals responsible for applying pesticides on the premises shall obtain the appropriate license from the department prior to making any applications. Cultivation operations must follow the EPA Worker Protection Standard 4 when preparing and applying pesticides. Indoor cultivation operations must comply with the pesticide manufacturer's published re-entry interval time periods when applying pesticides. Initial training shall include at a minimum:

- Sanitary requirements for pest and disease prevention
- Recognizing common pests and disease
- Recognizing symptoms of pests and disease
- Ruling out nutrient deficiencies
- Daily monitoring and spot checks
- Determining the infestation level/action threshold
- Approved areas for pesticide applications
- Controlling outbreaks in the vegetative phase
- Adhering to the agricultural use requirements of the label
- Use of personal protective gear
- Use of application equipment and process
- Procedures for spray applications
- Lighting requirements for spray applications
- Procedures for soil drenches
- Handling/laundrying protective wear
- Storage
- Disposal
- Approved products
- MSD Sheets

## **Pesticide Application Process**

All pesticides shall only be applied in the early stages of vegetative growth. Pesticide application shall be strictly prohibited during the flowering phase. When an actionable infestation level is determined during vegetative growth, it is the responsibility of the vegetative lead and trained vegetative staff to act immediately to prevent further contamination. All individuals applying pesticides will adhere to the agricultural use requirements written on the label and shall employ all personal protective equipment recommended on the product label. All dispensary staff members will be aware of worker protection requirement standards for the restricted entry interval (REI) stated on each product's label prior to application.

1. Determine the infestation type
2. Determine the appropriate treatment
3. Review the instructions for application on the product label
4. Ensure the product intended for use is approved by the Department
5. Determine application methods, i.e. soil or foliar application
  - a. Atomizer (foliage sprayer)
  - b. Pesticides application pump and reservoir (soil drench)
6. Change into the appropriate protective clothing and equipment
  - a. Coveralls
  - b. Waterproof spray suit
  - c. Gloves
  - d. Boots
  - e. Goggles and face shield
  - f. Respirator
7. Prepare solution by strictly following the appropriate ratios for each product used.
8. If the solution is to be applied by spraying on foliage, turn off HID lights and use normal lighting. All HID lights are to remain off until foliage is completely dry to avoid concentrated light burn damage.
9. Perform application
10. Launder protective wear

All regulators and environmental control systems that regulate carbon dioxide emissions must be maintained in good working order and be serviced in accordance with the manufacturer's recommendations.

- **Equipment and tools**

Equipment used for measuring, regulating, or recording temperatures, pH, humidity, or other conditions related to the cultivation and processing of cannabis must be accurate and adequately maintained. Cultivation and processing tools that come in direct contact with cannabis plants should be disinfected as needed to protect plant health. Scales used for the weighing of cannabis must be calibrated at regular

- **Pesticide Storage**

Proper storage of pesticides, fungicides and other bio-controls is imperative to ensure their efficacy over time. The dispensary cultivation manager will maintain the storage of all pesticides in a manner that prolongs their shelf life while protecting dispensary employees, and the environment, and does not allow for any possible contamination of plants beyond the vegetative phase and or finished product.

All pesticides will be stored in the following manner:

- In locked cabinet
- Cabinet shall be cool, dry and well ventilated
- In their original containers
- With proper labeling intact
- Dry pesticides above liquid pesticides
- Follow all storage recommendation on the label for special needs
- Off the ground in case of flooding
- MSD sheets and emergency numbers shall be on hand at all times
- Always wash hands after any contact with chemicals
- No food or drink where chemicals are stored or used

***Never store pesticides:***

- In equipment used for application
- In any other contain except for the original
- Near food, nutrients, flowering plants or finished products, water, or protective clothing.

- **Laundering protective gear**

All protective gear used during the pesticide application process will be laundered directly after the application process. Protective gear will be washed separately from the rest of the laundry. Any clothing soaked in pesticide shall be discarded. The sanitation manager shall ensure the following processes are followed at all times when laundering protective gear after pesticide applications:

- Wear rubber gloves when touching clothing
- Wash with hot water
- Use heavy detergent
- Wash twice
- Run washing machine a third time after

Disposal of all unused pesticide product shall be performed in compliance with all state and federal laws and regulations and all directions on the product label.

All pesticides applied at the dispensary shall be from the department's approved list and shall be OMRI certified. A list of pesticides approved for use shall be maintained and displayed, by the dispensary cultivation manager, in the pesticide storage area of the dispensary. The dispensary cultivation manager shall monitor and post any updates to the approved list from the Department's website. All pesticide products applied in the dispensary shall be registered with the department except for those products classified as 25(b) pursuant to the Federal Insecticide Fungicide and Rodenticide Act administered by the USEPA.

## ***Approved Active Ingredients for Pesticides and Fungicides***

The following criteria shall be followed at all times for selecting pesticides and fungicides for use in conjunction with IPM:

- The product must only contain active ingredients from the list below.
- Certain products, as noted, must only be used in the vegetative stage of growth.
- All ingredients, including both active and inactive, must be listed on the label.
- Active must be listed by name and percentage of weight, and inert must be listed by name. Labels cannot contain false or misleading statements.

Approved pesticides are:

- Subject to a tolerance established for application to cannabis by the US Environmental Protection Agency (EPA);
- Identified by EPA regulation as exempted from tolerance
- Subject to a § 18 emergency exemption under FIFRA3 or
- Permitted for application to cannabis in other countries as long as the pesticide is also permitted for application to one or more food crops in the United States.

## ***Department Approved Pesticides and Fungicides Names and Uses***

- **Azadirachtin**

Azadirachtin is clarified hydrophobic extract of neem oil. Combined with cold pressed neem oil, it controls a wide variety of common pests and also acts as a fungicide.

- Uses: Mites, Gnats, Aphids, Whiteflies, Thrips
- Use these products in vegetative and early flowering, and avoid applying directly to flowers.

- **Neem oil**

Neem oil works well to control most common pest populations. Look for brands that combine neem with Azadirachtin for the most effective applications.

- **Garlic oil/Powder**

Garlic is antifungal, anti-bacterial, and insecticidal. Garlic spray can be made and used every few days as a preventative.

- **Copper Octanoate**

Copper is a highly effective fungicide and is successful in treating many fungi including powdery mildew, septoria, gray mold, and pythium. Only use in copper in the vegetative growth phase.

- **Geraniol**

Geraniol is a monoterpenoid and a common ingredient in natural insecticides that can be highly effective for battling flying insects when used in conjunction with other natural oils. Avoid spraying flowers.

- **Kaolin**

Kaolin is a type of clay. Products containing kaolin can be used as a pest preventative.

- **Hydrogen peroxide**

Hydrogen peroxide is a highly effective fungicide and algicide. It can be used on leaves throughout the entire plant life cycle to control powdery mildew, gray mold, pythium and algae. It is also an effective cleaning agent for reservoirs and growing surfaces.

- **Additional permitted pest and disease controls**

Citric acid	Thyme oil	Potassium
Corn oil	Phosphorous acid	Piperonyl butoxide
IBA	Peroxyacetic acid	Potassium bicarbonate
Iron phosphate	Sulfur	Potassium laurate
Mineral oil/petroleum distillate	Pyrethrins	
Soybean oil	Sodium ferric EDTA	

## ***Microbial and Biological Pesticides and Fungicides***

- **Bacillus pumilus**

Strain GB34 grows on roots and is used to prevent soil-born fungus spores from germinating.

- **Bacillus subtilis**

Colonizes the roots and protects against pathogens by inhibiting spore germination and preventing pathogens from attaching to the plant.

- **Bacillus thuringiensis**

A bacterial insect disease and when colonized within soil, it can protect against a wide variety of pests and their larvae. BT works great to control fungus gnat populations.

- **Isaria fumosorosea**

A fungus that infects and kills whiteflies, thrips, aphids, and spider mites.

- **Pythium oligandrum DV 74**

- **Streptomyces griseovirdis strain k61**

- **Streptomyces lydicus WYEC 108**

When applied to soil, SI protects against a wide range of root decay fungi.

- **Trichoderma asperellum ICC 012**

Naturally occurring and helps protect plants from fusarium oxysporum, a pathogenic soil-born fungus.

- **Trichoderma gamsii ICC 080**

Prevents soil-born fungal pathogens by competing for nutrients and space. Tg also attacks the cell walls of pathogenic fungi by utilizing enzymes.

- **Trichoderma harzianum Rifai KRL-AG2**

A naturally occurring fungus that is utilized to prevent harmful plant fungi that cause disease.

- **Trichoderma virens G-41**

Inhibits and kills plant pathenogenic fungi Rhizoctonia and fusarium.

- **Reynoutria sachalinensis**

Sprayed on plants in order to activate an internal defense system of several fungi including powdery mildew and gray mold. RS is an extract of giant knotweed.

## ***Common Pest Varieties and Symptoms***

The following guide has been compiled to aid in troubleshooting plant symptoms and determining infestation varieties in order to implement immediate treatment protocol.

- **White Flies**

- **Thrips**

Thrips are common in cannabis gardens. They appear in three different colors and are visible with the naked eye. Thrip damage will most likely be seen before the insect is detected. Thrips cut into the leaf and feed off the sap. A heavy thrip infestation will result in shiny silver streaks on fan leaves. A heavy infestation shall require topical treatments, however, they breed in the soil, and so biological/microbial regimens will keep out breaks from having negative effects on crops.

### **Thrips Treatment:**

- Foliar- Organic insecticide
- Soil- Beneficial fungi

- **Spider Mites**

Spider mites are by far the most important infestation to avoid. Mites are microscopic therefore plant damage will most likely be the first sign of infestation. Mites double breed very quickly doubling their population daily, so just one mite can easily turn into thousands and thousands into millions. Outdoors spider mites have natural predators

that keep their populations from exploding, however, indoors it can be very hard to control outbreaks.

#### **Spider Mites Treatment:**

- Treatment:
- Foliar - Spray miticide

- **Aphids**

Aphids are common in cannabis gardens. They are visible to the naked eye and appear in an array of colors. Aphids are nasty little bugs; heavy infestations will cause serious crop damage rotting large flowers and deeming them waste.

#### **Aphids Treatment:**

Aphids breed in the soil so they are easily prevented through biological/microbial controls in the soil. If aphids become visible, the above ground population should be treated immediately and applications of soil fungi should be increased.

- Foliar: Organic pesticides
- Soil: Beneficial fungi

- **Fungus Gnats**

Fungus gnats eat plant roots and weaken the plant thus reducing the plant's ability to achieve maximum results. Gnats are visible to the naked eye and once spotted, it is essential to increase the beneficial fungi applied to the soil. Adult gnats do not need to be sprayed; simple sticky traps will collect the majority, and the rest should be controlled in the soil.

#### **Fungus Gnats Treatment:**

- Soil: Biological/microbial beneficial bacteria
- Air: Sticky fly traps

## **Common Plant Diseases**

The dispensary cultivation manager shall follow every environmental control set forth to prevent such diseases, however, in the event that such a disease still occurs, it is important to catch it and eliminate it immediately to prevent contamination of other batches within the dispensary. The following guide can help determine common problems and solutions in order to eliminate potential for further contamination and crop destruction.

- **Powdery Mildew**

Powdery Mildew is a fungal disease appears on medical cannabis plants as a white, powdery film common to both certain strains of hops and also cannabis plants. It begins as bumps on the top of the leaves. It can be caused by poor circulation in the grow room.

- **Root Rot/Pythium**

This fungal disease can destroy the roots of the medical cannabis plant, particularly in those plants that have already been weakened by other sources of stress or disease. Plant leaves begin to wilt and turn yellow at the edges. This fungus can be carried by gnats. The best prevention for root rot is to keep the grow room clean, well-ventilated, and pest-free.

- **Mold/Botrytis**

This necrotic fungus often attacks the flowers of the medical cannabis plant approximately a month before harvest. It can be diagnosed by examining the interior of the flower for grey, white, or blue-green moldy hairs protruding. These spores live in the air, therefore it is important to prevent an outbreak of the disease by keeping the grow room clean and well ventilated.

- **Fusarium Wilt**

Fusarium is a fungus that lives in the soil of the medical cannabis plant and attacks root systems during an outbreak. It can be diagnosed by small dark spots on the leaves, which can quickly turn the leaves yellowish before wilting. The disease prevents nutrients from traveling through the plant. Plants infected with a fusarium outbreak must be separated from the rest immediately and destroyed.

## **Environmental Stresses**

The following environmental stressors can affect the growth of cannabis. It is imperative to maintain a consistent environment in order to prevent the following:

- **Over-feeding (nutrients)**

Nutrient burn occurs when a plant has been fed too many nutrients, especially nitrogen. Leaves will turn a deep, dark green, wilt or begin to show burnt tips. Overfeeding does not make the plant grow faster or bigger. When a plant is given too many nutrients, or not enough, then it starts showing signs of stress. This is caused by mineral imbalances which prevent the plant from carrying out its normal functions. Common signs of nutrient stress are burnt brown or yellow leaf tips, yellowing leaves or other unusual coloring/spotting, leaves falling off and slowed growth. As plants get older, they need fewer nutrients and may be more likely to show signs of nutrient stress. An older cannabis plant will need fewer nutrients than a younger one.

Sometimes plants appear to be suffering from a nutrient deficiency but treatment fails to solve the problem. This creates chemical reactions that lock up nutrients, making them insoluble and preventing them from being absorbed by the roots. When this occurs, balance can be restored by flushing the plant with twice the amount of water as the size of the container. Salts will wash out of the medium and the plant will be able to absorb the proper amount of nutrients again.

- **Root Bound**

The roots of a cannabis plant require enough grow medium to stretch out and absorb nutrients. When a plant is in a container that is too small to allow the roots to grow, the plant is root bound. Growth is stunted and the plant suffers. Transplanting the plant into a larger container will allow the roots to develop and revive the growth of the plant. The minimum requirement for root zone size is approximately 1 gallon per month of growth, but is also dependent on final size and energy input.

- **Light burn**

Light burn occurs when the cannabis plant is too close to the grow lights, or touches the bulb. Plants use light as energy. Chloroplasts are special organs inside leaf cells that capture the red and blue spectrum waves and use them to power photosynthesis. In this process plants take elements from water and air to make sugar while releasing free oxygen. The sugar is used to build tissue, including flowers. The more light the plant has the faster the chloroplasts can function. As long as the plant is supplied with enough water, carbon dioxide and nutrients it will increase production when it receives more light. Cannabis plants require, at a minimum, 50 watts of HPS or MH light per square foot, but if the lights are too close to the plants, any wattage will scorch the plants.

- **Over-watering**

When cannabis plants are over watered, an anaerobic condition is created where the roots of the plant are receiving no oxygen. Roots don't use carbon dioxide, but they do use oxygen. They obtain it from the air spaces between the soil particles. When they are deprived of oxygen they cannot function properly and gradually lose their vigor. The roots are easily attacked by pathogens when the plant is overwatered, as well as becoming more likely to develop mold issues.

- **Under-watering**

Cannabis roots should never dry out. An under watered cannabis plant will quickly wilt, dry up and die. The amount of water that a plant needs and how often it should be watered depend on its size, the size of the container, canopy, root level and room temperature, humidity and the stage of growth. Larger plants require more water and larger containers need to be watered less frequently. Plants use less water in the last few weeks of flowering.

- **Heat burn**

Indoors, cannabis plants prefer moderate temperatures - between 70-75 degrees when the lights are on, and a slightly cooler set point, no more than 15 degrees, when the lights are off. Plants can withstand high temperatures when they have a large and healthy root system that can draw up enough water to keep the plant cool through transpiration. During vegetative growth, when the plant is growing bigger and stronger and not yet producing flowers, temperatures in the 80's and 90's will result in stem elongation, preventing the plant from developing a strong and compact stem. During the flowering phase of growth, high temperatures result in airy, undeveloped flowers that do not provide quality medicine.

The room temperature of the grow space is not as important as the temperature between the lights and the plants. If this space is too warm, increasing air conditioning, ventilation and raising the lights will get the temperature to return to normal levels.

- **CO2 burn**

Cannabis plants absorb carbon dioxide and release oxygen. The plant uses the CO2 for growth and is the essential building block for photosynthesis. Increasing CO2 in the grow space increases yields and plant growth. Supplemental levels of CO2 over 1,200 PPM will increase growth and yields by up to 20% by assisting the plant in absorbing more light. CO2 also assists the plants and growers by allowing the plant to tolerate higher temperatures and maintain normal growth cycles in temperatures that are not ideal, which can lower HVAC and power costs. When Co2 ppm is too high, cannabis

plants can suffer greatly, which makes causes them to burn and eventually die. CO2 usage should be constantly monitored to make sure the plants are receiving the proper amount of carbon dioxide.

All regulators and environmental control systems that regulate carbon dioxide emissions must be maintained in good working order and be serviced in accordance with the manufacturer's recommendations in order to regulate CO2 usage and efficiency.

- **pH Imbalance**

pH is a logarithmic measure of the acid-alkaline balance in soil or water. A pH of 1 is the most acidic solution, 7 is neutral and 14 is most alkaline. Different species of plants require different pH levels. Cannabis plants are best suited to a pH range between 6.0-6.5, a slightly acidic solution. All of the plant's nutrients are water soluble in this range so they are readily available to the plants. Outside of this range, the plant, creating nutrient deficiencies and slow growth, won't absorb vital nutrients. Usually, a nutrient deficiency is corrected by flushing the plant's grow medium with properly pH adjusted water, between 6.0-6.5. Growers must check the pH of the plant's soil, as well as the water used, to maintain proper pH. Water should be pH adjusted after any nutrients are added to the water, since the nutrients affect the pH level of the water. Maintaining the correct pH range is the most important step in the growth cycle of a cannabis plant.

---

## Advanced Growing Techniques

---

Both the vegetative and flowering team shall use the following techniques in a timely manner to ensure plants reach MGP, maintain product efficacy, and create consistency in dosage:

### **Topping**

Topping a plant consists of removing the top shoot or shoots in order to force a plant to send its energy to lower branches. When a plant is topped, each lower branch becomes a main stem, thus turning one plant into multiple smaller plants that share one main stem and root system. All topping occurs in the vegetative stages of plant growth. The vegetative manager will ensure all plants are topped in order to achieve the appropriate branching structure. Correct topping procedure follows:

1. The first topping shall be done when the plant has achieved 3-4 nodes.
2. With scissors, snip off the tip of the plant between the 3rd and 4th node.
3. Remove the bottom nodes so that four branches remain.

**Materials for Topping Plants:** Sharp, clean scissors.

### **Super Cropping**

Super cropping is similar to topping a plant in that the goal is to slow down the growth of an aggressive stem in order to allow the lower foliage to catch up, resulting in a bushier plant with more overall colas. The vegetative manager shall utilize super cropping after the plant has been topped several times, i.e. in the pre-flowering stage of growth to prepare the plant for SCROGing in the flowering stage.

**Super cropping process:** Super cropping involves the bending of the highest stems in order to equalize the plant's energy between branches resulting in an even upper canopy. The vegetative manager shall super crop plants in the pre-flowering phase by the following process:

1. Determine the desired canopy height.
2. While wearing gloves, take one of the tallest branches and massage it between two fingers until it starts to weaken and bend. Shaking, pinching, and rolling between the fingers may all be necessary to achieve the proper bend.
3. Try not to snap the stem, but instead weaken it away from the light in order to expose lower tops so they can catch up to the upper canopy.

### **SCROG**

"Screen of green" is a variant of the traditional "sea of green" where the goal is to have an all cola garden. The main difference between the two methods is in sea of green, each plant only

has one cola, where as in SCROG, plants are encouraged to have multiple colas. Both methods have their place in cannabis gardening as certain varieties reach their MGP under different conditions; meaning, some plants cannot reach MGP unless they are grown to a large size and some plants will reach MGP at smaller sizes.

Each flowering zone manager will ensure that the plants within their designated zone are properly SCROG'd by the following processes:

- **Netting**

The first step in SCROGing is preparing the screen. Two flowering zone employees shall install a net from the frame surrounding each table in the zone.

**Process for netting:**

1. Unwrap netting material and unwind it along the side of the table to be netted.
2. One person on each end will stretch the net open at its width.
3. Carry the net over the top of the plants on both ends.
4. Wiggle the net down into the canopy so that the upper five inches are exposed.
5. Affix the net evenly to the framing using zip ties.

**Materials for netting:** Nylon net, zip ties

- **SCROGing**

The SCROGing process involves weaving the plants through the net so that each flowering top receives an equal amount of light in the optimal light zone. The flowering zone manager will SCROG each area so that the maximum numbers of flowering tops receive optimal lighting. SCROGing occurs during the early flowering phase (weeks two to three).

**Process for SCROGing:**

1. Once Plants in the Flowering Room reach a height where the plants branch structure has been pruned enough to determine which branches will be most likely to reach their MGP, netting should be stretched over the plants and anchored to the poles mounted on the outside of the tables. This netting is to provide a structural trellis through which branches may be placed in order to spread the flowers out ensuring each Flower receives optimal lighting.
2. Determine which branches will be threaded through the netting. Be sure to utilize the Step Stool to view the Canopy as a whole.
3. Without damaging or over stressing the plants, gently thread the branches through the netting making sure to utilize the entire surface area of the net.

4. While watering and Pruning, evaluate the current state of each plant and the canopy as a whole and adjust the SCROG accordingly to continually optimize the MGP of each plant.

**Materials for SCROGing:** Vinyl gloves

---

## Product Handling

---

Harvest, drying, and curing must all be handled with the utmost care to prevent contamination from mold and foreign substances. When a plant is harvested at the dispensary, it is carefully placed in a clean carrying vessel to be moved to the laboratory grade trimming and processing room.

All plants shall immediately have their leaves removed to allow adequate airflow around the flower while it is hung to dry in a room with a humidity level below 50%. Fans move the air while humidity is reduced further over the next few days allowing all flowers to decrease their moisture content to below 15%.

Flowers are then safe to place in containers where their moisture content is reduced to less than 10%. During this time, the bud is slowly turned allowing all plant terpenes to be released and evenly coat the entire batch creating a consistent smell and flavor profile.

Prior to being trimmed and cured, the processing team will segregate all harvested cannabis flower into their designated pre-determined homogenized batches. All segregated batches will be maintained in a secure, climate-controlled location suitable for the prevention of product contamination or efficacy loss.

---

## Harvesting

---

The flowering zone manager will work with the dispensary cultivation manager to determine a timeline for each batch within the flowering zone. Once a batch has a confirmed harvest date, the processing manager shall initiate the harvest of that particular batch. The processing manager shall ensure that upon harvest each batch is tag scanned, weighed, transferred and data recorded. The following process will be used to harvest each plant within a batch:

**Process for harvesting:**

1. Scan tag for harvest.
2. Cut the plant at the base as close to the soil as possible.
3. Weigh the entire plant and record in the log.
4. Place plant on the stainless steel table. Stainless steel table should be free from debris and wiped with alcohol.
5. Repeat the process until the table is full.
6. Transfer the product to the processing room and record new location and all other pertinent information.
7. Record total batch weight on log sheet and Biotrack.
8. Immediately remove fan leaves and begin trimming and drying process.

---

## Phase 1 Processing

---

### ***Post-Harvest – Batch Segregation***

The processing manager will ensure each batch remains segregated to avoid cross contamination and in order to maintain strict inventory control. Each batch will be clearly labeled and tagged with RFID and its exact location will be clearly defined and tracked at all times.

The processing manager will ensure each batch remains segregated to avoid cross contamination and in order to maintain strict inventory control. Each batch will be clearly labeled and tagged with RFID and its exact location will be clearly defined and tracked at all times.

### ***Processing/Wet Trimming***

Immediately after harvest all products from a selected batch are processed for drying. The processing manager shall follow the following process for trimming all cannabis:

1. Designate staff members that will trim the given batch.
2. Cut the plant into individual stems no longer than 18 inch sections.
3. Remove all fan leaves and place in green waste.
4. Remove sugar trim with sharp/clean scissors, and place all sugar trim in the proper sugar trim drying section to be prepared for the extraction process. Place the stem between two fingers and slowly spin each flower toward the scissors to remove fan leaf.
5. Ensure each cannabis pistillate inflorescence has all yellow or brown material removed.
6. Hang each trimmed stem from a hanger.
7. Once the batch is trimmed, move each hanger into the designated drying room for the particular batch. Scan and record data.

Dispose of gloves before leaving the trimming room.

**Materials/tools for trimming and processing:** Sharp/clean spring loaded scissors, vinyl gloves, stainless steel working tables, rubbing alcohol, hanging rack, hangers, etc.

### ***Processing/Dry Trimming***

Immediately after harvest all products from a selected batch are processed for drying. Dry trimming is ideal for smaller crops. The processing manager shall follow the following process for dry trimming all cannabis:

1. Ensure adequate staff members are available to trim the given batch.
2. Ensure that all work surfaces and tools are clean and sanitized.

3. Hangers containing dried flowers still attached to stems should be pulled from the drying room using the Rolling Hanger Cart as instructed by the Processing Manager.
4. Select a Flower Stem from the hanger and move it to the Screen Table.
5. Remove individual Flowers from the stem, placing the stems in the Stem Storage Bucket.
6. Trim fan leaves and Larf material from each individual flower.
7. Trim discolored flowers.

**Materials/tools for trimming and processing:** Sharp/clean spring loaded scissors, vinyl gloves, stainless steel working tables, rubbing alcohol, hanging rack, hangers, etc.

## **Drying**

The drying process consists of slowly removing the majority of moisture from finished cannabis in a manner that preserves and increases the efficacy of each batch. Harvested cannabis has moisture content of approximately 80%. During the drying process the moisture is slowly reduced to 15% and then moved into the curing phase to further reduce the moisture content to 8% so it can be safely sealed.

- **Stem drying cannabis**

Cannabis that has been trimmed on the stem can also be dried on the stem. Stem drying ultimately creates the highest quality finished product.

1. Prepare hanger by labeling with batch RFID and all pertinent information including strain.
2. After trimming, hang individual stems on a hanger until the hanger is loosely full.
3. Hang hangers on wall rack designed for stem drying.
4. Scan batch tag and record location and all pertaining data in SIS.

**Materials for stem drying:** Hangers, vinyl gloves, wall hanging system

- **Screen drying cannabis**

When it is necessary to trim cannabis flowers off the stem, the processing manager will utilize a screen drying system to remove moisture from the flowers and prepare each batch for final curing.

1. Label screen with batch RFID and all pertinent information including strain type and harvest date.
2. After flowers are trimmed, place on drying screen and insert screen into racking system.
3. Scan batch RFID and record location and all pertaining data in SIS.

**Materials for screen drying:** Drying screen system, vinyl gloves.

## ***Curing***

Curing is the process of slowly removing moisture content from 15% down to 8% in order to remove the remaining chlorophyll and sugars from flowers and prepare them for packaging or processing into extraction form. The processing manager will utilize the following process to ensure cannabis is cured properly:

1. Label container with batch tag and all pertinent information including strain and harvest date.
2. Place cannabis into container no higher than the fill line.
3. Seal the container and log moisture level.
4. Scan Batch barcode tag and record location and all other pertinent information.
5. When moisture level increases by 10 points, open the valve on the lid and allow moisture level to reduce. May take one to five hours.
6. When moisture level holds firm at pre-determined level for two days, cannabis is properly dried.
7. Open lid valve every two days for remaining days in the 14-day period.
8. Rotate container daily.
9. After 14 days, cannabis shall be sealed to await testing and test results.

**Materials for curing:** Curing containers, vinyl gloves.

## ***Secured Storage***

After the processing manager has determined that a batch has been fully dried and cured, that batch will be weighed, sealed, and secured within the storage vault until the batch has been tested and approved for distribution. The processing manager shall scan each batch and record all data in the SIS.

## ***Sealing Product***

Each batch of cannabis must be sealed and stored after it has dried and cured in order to maintain optimal moisture content. The processing team will seal each batch of dried and cured cannabis through the following process:

1. Prepare a sample from each batch prior to sealing. See testing.
2. Place empty storage vessel on scale and determine tare weight.
3. Fill vessel with cannabis.
4. Record weight and location of cannabis in the SIS.
5. Label container with batch, strain, and weight.
6. Place lid tightly on container.
7. Insert vacuum into insertion hole on container lid.
8. Turn on vacuum for the appropriate amount of time to remove all air from the vessel.

**Materials for sealing:** Vacuum, cannabis containers, large capacity scale.

## **Testing**

After curing and before any processing or packaging, the processing manager shall make samples from each batch available to an independent laboratory for testing. The sample shall be weighed, RFID scanned, and all data shall be recorded on the SIS prior to be removed from the secured curing area. The laboratory employee will select and prepare several random samples from every batch sample in order to ensure the quality, purity, and consistency of dose through a statistical approach. The laboratory staff will then test each random sample for harmful microbiological contaminants, mycotoxins, heavy metals and pesticide chemical residue. In addition, each sample will also be tested for active ingredients including but not limited to cannabinoid profiling for the following: THC, THCa, CBD, CBDa, and CBN. Under no circumstances shall cannabis batches awaiting contamination results and active ingredient analysis be included in a cannabis product or sold to a retail dispensary facility prior to the time that the laboratory has provided those results, in writing, to the dispensary management team.

If samples from a batch are tested and do not fall within state accepted health and safety levels for any of the above mentioned contaminants or any additional contaminants the state does not deem for distribution, it is the dispensary's policy to destroy and remove any contaminated product in a manner consistent with state compliance for the policy for disposal of green waste.

As soon as a batch sample passes the microbiological, mycotoxin, heavy metal and pesticide chemical residue test, the entire batch will be released for immediate manufacturing, packaging and labeling for transport and sale to a dispensary facility.

An electronic copy of all test results will be filed by laboratory staff for any batch that does not meet the standards set for microbiological, mycotoxin, heavy metal or pesticide chemical residue tests. These results will also be sent to dispensary staff within the same time frame. The laboratory staff will also maintain a comprehensive record of test results and make them available to state and local officials, and or the public, as needed.

The dispensary compliance manager will provide test results for each batch of cannabis used in any product purchased by a dispensary facility to that dispensary facility to be made available upon request to all qualifying patients, primary caregivers, and any physician who has certified a qualifying patient.

## **Packaging**

The dispensary shall not release or sell any part of a lot of usable cannabis until all required assurance testing has been completed in compliance with §11-850-85 subsection (j) . All cannabis is to be held in the secured pre-testing storage vault while awaiting test results.



1. All usable cannabis shall be packaged in child-resistant packaging.
2. Label is opaque so that the product cannot be seen from the outside of the packaging
3. Protect the contents from contamination and will not impart any toxic or deleterious substance to the usable cannabis or cannabis product
4. Contains no more than ten milligrams tetrahydrocannabinol for one dose, serving, or single wrapped item.
5. No manufactured cannabis product that is sold in a pack of multiple doses, servings, or single wrapped items, or any containers of oils, shall contain a total of more than one hundred milligrams of tetrahydrocannabinol per pack or container.

- **Labeling specifications**

Pursuant to 11-850-92 subsection (b), each package will 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 cannabis and cannabis product, including but not limited to:
  - A. Net weight in ounces and grams or volume and also the equivalent weight of the cannabis used to produce the cannabis product
  - B. The concentration of tetrahydrocannabinol or  $\Delta^9$  tetrahydrocannabinol, total tetrahydrocannabinol and activated tetrahydrocannabinol-A, and cannabidiol
2. The dispensary's license number and name of the production center where the cannabis was produced
3. The batch number and the date of packaging
4. A computer tracking inventory identification number barcode generated by tracking software
5. Date of harvest or manufacture and "Use by date"
6. The instructions for use
7. The specific phrases "For medical use only" and "Not for resale or transfer to another person"
8. Warnings must be included in labelling:
  - A. "This product may be unlawful outside 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 recommended for use by women who are pregnant or breast feeding"
  - F. "Cannabis can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug"

- G. “When eaten or swallowed, the effects of this drug may be delayed by two or more hours”
- 9. The disclosure of the type of extraction method that was used, including any solvents, gases, or other chemicals or compounds used to produce the manufactured cannabis product
- 10. The name of the independent laboratory that performed the testing
- 11. The information from 1-7 will appear on the package and the rest of the information will appear on the package insert.
- 12. The dispensary will not label as organic any cannabis or manufactured cannabis product unless permission has been granted by the US Department of Agriculture in accordance with the Organic Foods Production Act.

---

# Daily Manufactured Products Processes

---

At the start of each business day, manufactured cannabis products team members will arrive to the facility and be screened and checked in by a security team member or by management. At that time, the employees will clock in for their scheduled shifts and proceed with normal business operations. Each work-day will begin and end with a shift meeting between team members and facility managers and/or department leads. Team members of the facility will have opening and closing responsibilities to ensure a smooth shift and workflow as well as tasks and chores to be completed during each shift.

## ***Opening Responsibilities***

The opening responsibilities will primarily be comprised of getting the manufactured cannabis products facility ready for the day's production. This will consist of the following:

- Prepping production areas for the day
- Determine which products are to be produced
- Pull medical cannabis products from safe in secured access area

## ***Closing Responsibilities***

The closing responsibilities will primarily be comprised of closing the manufactured cannabis products facility and securing product for safe storage throughout the night. Closing responsibilities will consist of the following:

- Filling out daily production log sheet
- Inventory management
  - Recording ending daily inventory on log sheets
  - Having manager verify inventory quantities are correct
    - Inventory reconciliation - If there is a discrepancy, management will determine how to proceed.
- Pulling all medical cannabis products to be stored in a safe in a secure access area for nightly storage
- Close and secure facility for nightly closure

## ***Standard Operating Procedures***

This section will give a step-by-step guide on how to safely and appropriately perform safety checks, preparation, extraction, purging, cleaning and disposing of cannabis concentrate.

- **Safety Checks**
  - Conduct all necessary safety checks prior to commencing production

- Review safety checklist before beginning ANY concentrate extraction
  
- **Preparation**
  - Prepare medical cannabis for processing
  - Fill out proper production log sheets (what is about to be produced).
  - Quantities and types of cannabis/trim being used to produce concentrate
  - Estimated quantity of concentrate to be produced
  - The estimated concentrate production will be compared with actual production to determine efficiency and production rates.
  - Begin preparation for production.
  - Ingredients needed (cannabis to be used)
  - Get extraction machine/equipment ready for processing.
  - Wash hands and begin extraction processes.

---

# Manufactured Cannabis Products Preparation

---

## **Quality Control, Sanitation, Safety and Health Standards**

Pursuant to § 11-850-75, health, safety and sanitation are critical components of the manufactured cannabis products facility and all applicable laws and regulations must be strictly adhered to. General health, safety and sanitary standards will be discussed in this section.

A dispensary facility shall comply with state and county health, safety, and sanitation regulations and may be subject to inspection to affirm that no health or safety concerns are present which may contaminate the products.

## **State Regulations**

The manufactured cannabis products facility will be in full compliance with all applicable state and local laws and regulations regarding health, safety and sanitation. It will be the responsibility of the manufactured cannabis products facility manager to insure the creation and implementation of policies for regulatory compliance.

## **General Standards**

- **Manufactured cannabis products per §11-850-72:**
  - The dispensary shall manufacture cannabis products limited to capsules, lozenges, pills, oils and oil extracts, tinctures, ointments, and skin lotions.
  - The dispensary will establish and maintain a written policy and procedure that includes, but is not limited to:
    1. Safe and appropriate use of manufacturing equipment;
    2. Safe and appropriate storage of materials used to produce manufactured cannabis products;
    3. Effective training and monitoring of employees and subcontractors who participate in the production of manufactured cannabis products;
    4. Adequate protocols for laboratory testing of manufactured cannabis products;
    5. Safe and appropriate storage and disposal or destruction of manufactured cannabis products at all stages of production and sale;
  - The dispensary shall report to the department prior to producing any manufactured cannabis products:
    1. Strains of cannabis to be used by the dispensary to produce manufactured cannabis products
    2. Types of manufactured cannabis products that the dispensary will produce
    3. The manufacturing process or processes the dispensary will use in producing manufactured cannabis products

- **Sanitation Standards per § 11-850-92:**

General Sanitary Requirements. Our cannabis products facilities will take all reasonable measures and precautions to ensure the following:

- That any person who, by medical examination or supervisory observation, is shown to have, or appears to have, an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination for whom there is a reasonable possibility of contact with preparation surfaces for medical cannabis or medical cannabis-infused product shall be excluded from any operations which may be expected to result in such contamination until the condition is corrected;
- That hand-washing facilities shall be adequate and convenient and be furnished with running water at a suitable temperature. Hand-washing facilities shall be located in the licensed premises and/or in medical cannabis-infused product preparation areas and where good sanitary practices require employees to wash and/or sanitize their hands, and provide effective hand-cleaning and sanitizing preparations and sanitary towel service or suitable drying devices;
- That all persons working in direct contact with preparation of medical cannabis or medical manufactured cannabis product shall conform to hygienic practices while on duty, including but not limited to:
  - Maintaining adequate personal cleanliness;
  - Washing hands thoroughly in an adequate hand-washing area(s) before starting work, prior to engaging in the production of a medical cannabis concentrate or manufacture of a medical cannabis-infused product and at any other time when the hands may have become soiled or contaminated; and
  - Refraining from having direct contact with preparation of medical cannabis or medical manufactured cannabis product if the person has or may have an illness, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination, until such condition is corrected.
- Litter and waste will be properly removed and the operating systems for waste disposal will be maintained in an adequate manner so that they do not constitute a source of contamination in areas where cannabis is exposed.
- Floors, walls and ceilings will be constructed in such a manner that they may be adequately cleaned and kept clean and in good repair.
- There will be adequate lighting in all areas where cannabis is stored and where equipment or utensils are cleaned.
- There will be adequate screening or other protection against the entry of pests. Rubbish shall be disposed of so as to minimize the development of odor and minimize the potential for the waste becoming an attractant, harborage or breeding place for pests.
- Any buildings, fixtures and other facilities will be maintained in a sanitary condition.
- Toxic cleaning compounds, sanitizing agents, and solvents used in the production of cannabis concentrates shall be identified, held and stored in a manner that protects against contamination of cannabis, and in a manner that is in accordance with any applicable local, state or federal law, rule, regulation or ordinance.

- All contact surfaces, including utensils and equipment used for the preparation of cannabis or cannabis-infused product shall be cleaned and sanitized as frequently as necessary to protect against contamination. Equipment and utensils shall be designed and shall be of such material and workmanship as to be adequately cleanable, and shall be properly maintained.
- The water supply shall be sufficient for the operations intended and shall be derived from a source that is a regulated water system. Private water supplies shall be derived from a water source that is capable of providing a safe, potable and adequate supply of water to meet the facility's needs.
- Plumbing shall be of adequate size and design, and adequately installed and maintained, to carry sufficient quantities of water to the required locations throughout the facility. Plumbing shall properly convey sewage and liquid disposable waste from the facility. There shall be no cross connections between the potable and waste water lines.
- All operations in the receiving, inspecting, transporting, segregating, preparing, producing, packaging and storing of cannabis and manufactured cannabis products shall be conducted in accordance with adequate sanitation principles.
- Each dispensary center shall provide its employees with adequate and readily accessible toilet facilities that are maintained in a sanitary condition and good repair.
- Cannabis that can support the rapid growth of undesirable microorganisms shall be held in a manner that prevents the growth of these microorganisms.
- The permittee must request the department to conduct a pre-operational inspection at all registered dispensary centers to determine whether the facilities, methods, practices and controls used in the manufacture, processing or holding of manufactured cannabis products conform to or are operated or administered in conformity with good manufacturing practices to ensure that food products for human consumption are safe and have been prepared, packed and held under sanitary conditions.
- Permitted dispensary centers shall immediately allow the department to inspect the premises and all utensils, fixtures, furniture, machinery and devices used for preparing manufactured cannabis products.
- A dispensary center that prepares manufactured cannabis products for sale or distribution at a dispensing organization shall be under the operational supervision of a certified food service sanitation manager.

---

# Manufactured Cannabis Products Production

---

## **Concentrate (Hash) Production**

Medical cannabis concentrates and hash are becoming more popular within the medical cannabis industry and will generate nice revenues for the organization. This section will outline the processes involved with the production of concentrates/hash oil. This section will also outline quality control measures and safety/emergency protocol.

- **Types/methods of concentrate production**
  - Water extraction (bubble hash)
  - Solvent extraction (acetone, alcohol based)
  - CO2 extraction

---

## Extraction Methods

---

### **Water Based Extraction (bubble hash)**

Water based extractions are processes with medical cannabis, water and ice. The water and ice are used for the purpose of extracting the desired cannabinoids from the raw cannabis material.

- **Water Based Extraction Process**

- Collect raw medical cannabis material from which you will create the concentrate.
- Collect all necessary equipment needed for entire extraction process.
  - Bubble bags
  - Container or wash machine
  - Mixer
  - Ice and water
- Start extraction process by setting up the bubble bags in proper micron order.
- Mix raw medical cannabis material in the bubble bags with ice and water.
- Mix the bubble bag mixture thoroughly with mixer or in wash machine.
- Lift bubble bags and let water and ice drain from bags.
  - Repeat this process a few times.
- When you feel you have extracted all the desired cannabinoids from raw material, take bubble bags out of water mixture or wash machine.
- Pull all concentrate from bubble bags and use pressing screen to extract all remaining water from concentrate.
- Let concentrate dry and cure.
- Report all quantities and types of concentrates produced.
- Inventory management and compliance
- Packaging and labeling
- Transfer to retail facility(s)

### **CO2 Extraction**

Extracting cannabinoids and other essential components of medical cannabis.

- **Extraction Machine Use**

1. Make sure all valves on the recovery tank are closed.
2. Open ALL valves on extractor.
3. Turn vacuum pump to high and pump system down to about - 29"Hg. (This number changes depending on your altitude).
4. Close valves #3 and #4.

5. Turn off vacuum pump.
6. Place CO2 storage tank on scale, tare scale to 0 pounds.
7. Turn on the recovery pump.
8. Turn on valve #4. Notice you will start to lose weight on the scale as solvent is injected into the system when opening valve #4.
9. When you see liquid reach the sight glass, note the weight value on the scale as “column soak weight”.
10. This will tell you how much butane is currently in the system, and how much is required to flood the column. e.g. 1 pound
11. If you don't have a sight glass, you can hold your hand at the top of the column to feel the chill of the butane.
12. When the scale reads double the column soak weight (e.g. 2 pounds) turn off valve #4 and valve #2.
13. Place recovery cylinder in ice bucket.
14. Place recovery pot/extractor in a warm water bath at 80°F – 120°F.
15. Continue to pump with the recovery pump until the internal pressure is reduced to -10”Hg.
16. Place CO2 storage tank on scale.
17. Open valve #2 (slowly) and valve #4 till the recovery tank loses solvent equal to the column soak weight in step nine.
18. Close valve #4 and then valve #2 and continue to pump until the system pressure is again reduced to -10”Hg.
19. Repeat steps 14 through 15 for as many cycles as you choose to run. (Typically three cycles is enough.)
20. At the end of the last cycle, when the gauge hits -10”Hg, slowly open valve #2 and then valve #3 to dump the column.
21. Continue to pump until the system reaches -22”Hg (-19”Hg at higher altitudes)
22. Close valve #5 and turn off the recovery pump.
23. Open valve #1, and turn on the high vacuum pump.
24. Pump the system down to -29.5”Hg and close valve #1.
25. Shut off the vacuum pump and allow the system to sit under hard vacuum for about five minutes.
26. Remove product from lower collection tank.

## ***Solvent Extraction***

Solvent extraction methods use various solvents to capture the plant cannabinoids for the concentrate production.

The most common solvent used for this extraction method is alcohol.

Typically, medical cannabis products being used to make the concentrate will be soaked in the solvent for a period of time.

- Once the soaking process is complete, you will use a colander or cheesecloth to separate the raw medical cannabis product from the alcohol.
- Once the raw materials are separated, the solution will need to be purged, which is typically done by just sitting in open air.
- Once the solution is purged and all alcohol has been evaporated, you will be left with the cannabis concentrate.
- You will then need to package and label the concentrates produced.
- Properly log and track all production information.

---

## Extraction Procedures

---

### **Cleaning Equipment**

- Clean all equipment, counters and surfaces thoroughly
- Use sanitized towel to wipe/clean all counters and surfaces
- Clean extraction machines regularly
- Sweep floors

### **Disposal of Waste**

Dispose of any waste produced during the processing of medical cannabis in accordance with all applicable local, state and federal laws, rules and regulations.

Disposal of any cannabis product waste must be rendered unusable and unrecognizable through one of the following methods:

- Grinding and incorporating the cannabis waste with non-consumable, solid wastes listed below such that the resulting mixture is at least 50 percent non- cannabis waste:
  - Paper waste;
  - Plastic waste;
  - Cardboard waste;
  - Food waste;
  - Grease or other compostable oil waste;
  - Bokashi, or other compost activators;
  - Other wastes approved by the department that will render the medical cannabis and medical cannabis-infused product waste unusable and unrecognizable as cannabis; and
  - Soil.
- A licensee shall not dispose of medical cannabis and medical cannabis-infused product waste in an unsecured waste receptacle not in possession and control of the licensee.

### **Quality Control**

The quality and consistency of cannabis and manufactured cannabis products is critical for the success of the organization. Facility management shall ensure that only medical cannabis and medical manufactured cannabis products of the highest, pharmaceutical grade quality are wholesaled, transported and dispensed within the state of Hawaii.

Quality control procedures designed to maximize safety for owners and occupational licensees and minimize potential contamination will be utilized within our dispensary facility. Quality control procedures will pertain to cultivated raw cannabis and manufactured cannabis products. Facility employees will be properly trained on quality control measures and protocols. For quality control, facility employees will at a minimum:

- Visually inspect all items produced for any contaminants
- Foreign objects (plant material, hair, debris, etc.)
- Follow all sanitary measures and procedures
- Send samples to lab for testing

---

# Emergency Procedures

---

This section will outline steps to be taken in case of an emergency. It will detail actions for owners or occupational licensees in case of a fire, chemical spill or other emergency.

## **Fire Emergency**

- If fire is small and isolated, try to exhaust the fire with one of the fire extinguishers.
- In case of a fire emergency, dial 911 for Fire Department.

## **Chemical Spill**

- Try to use chemical spill kit for smaller incidents of chemical spill.
- If chemical spill is large or you do not know how to handle the situation, escalate to your manager.

## **Other Emergencies**

- Contact 911 for break-ins or burglaries.

## **Record Keeping/Documentation**

This section will detail how to maintain clear and comprehensive records of the name, signature, and owner or occupational license number of every individual who is engaged in any step related to the creation/production of a production batch of medical cannabis and the step that individual performed.

- **Documentation/Records Needed**

Record and maintain accurate records of employees and owners or occupational license numbers.

- These records will be kept by the manager and stored in the office.
- Make sure you are following all laws, rules and regulations.
- Fill out daily production logs for our records.
- Fill out daily transfer to center logs for our records.
- Fill out daily wholesale logs for our records.

---

## Laboratory Testing

---

Revolution Cannabis will ensure that all state and local regulations regarding laboratory testing and procedures are implemented and adhered to by all employees involved with laboratory testing. Management shall properly educate and train staff members on laboratory testing laws and procedures prior to an employee's involvement in the testing process.

The laboratory shall file with the Department an electronic copy of each laboratory test result for any batch that does not pass the microbiological, mycotoxin, or pesticide chemical residue test, at the same time that it transmits those results to the dispensary center. In addition, the laboratory shall maintain the laboratory test results for at least six years and make them available at the Department's request.

A dispensary center shall provide to a dispensary organization the laboratory test results for each batch of cannabis product purchased by the dispensary organization, if sampled. Each dispensary organization shall have that laboratory results available upon request to qualifying patients, designated caregivers and a physician who has certified a qualifying patient.

### ***State Regulations***

#### **Per §11-850-85 subsections (a)-(i):**

Each batch of cannabis or manufactured cannabis products shall be made available at the dispensary center for an employee of an approved laboratory pursuant to §11-850-85 subsections (a)-(i) to select a random sample, which shall be tested by the approved laboratory for:

- microbiological contaminants;
- mycotoxins;
- pesticide active ingredients;
- residual solvent; and
- purposes of conducting an active ingredient analysis.

A laboratory shall immediately return or dispose of any cannabis upon the completion of any testing, use or research. If cannabis is disposed of, it shall be done in compliance with HAR §11-850-85(j).

### ***Microbiological Test***

For purposes of the microbiological test, a cannabis sample shall be deemed to have passed if it satisfies the recommended microbial and fungal limits for cannabis products in colony forming units per gram (CFU/g) set forth in §11-850-85(F).

	Total viable aerobic bacteria	Total yeast and mold	Total coliforms	Bile-tolerant gram-negative bacteria	E. coli (pathogenic strains) and Salmonella spp.
CO <sub>2</sub> and solvent based extracts	10 <sup>4</sup> CFU/g	10 <sup>3</sup> CFU/g	10 <sup>2C</sup> FU/g	10 <sup>2</sup> CFU/g	Not detected in 1 g

Unprocessed materials include minimally processed crude cannabis preparations such as inflorescences, accumulated resin glands (kief), and compressed resin glands (hashish). Processed materials include various solid or liquid infused edible preparations, oils, topical preparations, and water-processed resin glands (bubble hash).

### ***Mycotoxin Test***

For purposes of the mycotoxin test, a cannabis sample shall be deemed to have passed if it meets the following standards:

- Test Specification
  - Aflatoxin B1 <20 µg/kg of substance
  - Aflatoxin B2 <20 µg/kg of substance
  - Aflatoxin G1 <20 µg/kg of substance
  - Aflatoxin G2 <20 µg/kg of substance
  - Ochratoxin A <20 µg//kg of substance

### ***Presence of Pesticides***

For purposes of presence of pesticides, a cannabis sample shall be below 1.0 ppm.

### ***Best Practice Laboratory Testing Procedures***

The processing manager shall make samples from each batch available for laboratory testing. The sample shall be weighed, RFID scanned and all data shall be recorded on the SIS prior to being removed from the secured curing area. The laboratory employee will select and prepare several random samples from every batch sample in order to ensure the quality, purity, and consistency of dose through a statistical approach. The laboratory staff shall then test each random sample for harmful microbiological contaminants, mycotoxins, heavy metals and pesticide chemical residue in accordance with HAR §11-850-85 subsections (a) and (b). In addition, each sample will also be tested for active ingredients including but not limited to cannabinoid profiling for the following: THC, THCa, CBD, CBDa, and CBN. Under no circumstances shall cannabis batches awaiting contamination results and active ingredient analysis be included in a cannabis product or sold to a dispensary facility prior to the time that

the laboratory has provided those results, in writing, to the dispensary facility management team or the manufactured cannabis products management team pursuant to HAR §11-850-85.

If samples from a batch are tested and do not fall within state accepted health and safety levels for any of the above mentioned contaminants or any additional contaminants the state does not deem for distribution, it is the dispensary and manufactured cannabis products facility's policy to destroy and remove any contaminated product in a manner consistent with state compliance for the policy for disposal of waste. Pursuant to HAR §11-850-85 subsection (j) the batch will be retested or destroyed if the retesting confirms that the batch is non-conforming. The batch will be quarantined until such time that the department lifts the quarantine.

As soon as a batch sample passes the microbiological, mycotoxin, heavy metal and pesticide chemical residue test, the entire batch will be released for immediate processing manufacturing, packaging and labeling for transport and sale to a manufactured cannabis products facility or a dispensary facility.

An electronic copy of all test results shall be filed by laboratory staff for any batch that does not meet the standards set for microbiological, mycotoxin, heavy metal or pesticide chemical residue test. These results will also be sent to the dispensary facility staff and/or the manufactured cannabis products facility staff within an adequate time frame. The laboratory staff will also maintain a comprehensive record of test results and make them available to state and local officials, and or the public as needed.

The dispensary facility and/or manufactured cannabis products facility compliance manager shall provide test results for each batch of cannabis used in any product purchased by a dispensary facility to that dispensary facility to be made available upon request to all qualifying patients, primary caregivers, and any physician who has certified a qualifying patient.

---

## Packaging and Labeling

---

Management will ensure full compliance with all applicable regulations relating to packaging and labeling within the dispensary facility. All medical cannabis products and manufactured cannabis products will be packaged and labeled according to all applicable state and local laws and regulations. Below are State Regulations pertaining to packaging and labeling requirements; management shall ensure that all employees are properly trained on packaging and labeling requirements and procedures.

### ***State Regulations***

#### **Packaging and Labeling Per §11-850-92: Packaging and Labeling of Medical Cannabis and Manufactured Cannabis Products.**

- All usable cannabis shall be packaged in child-resistant packaging.
- Label is opaque so that the product cannot be seen from the outside of the packaging
- Protect the contents from contamination and will not impart any toxic or deleterious substance to the usable cannabis or cannabis product
- Contains no more than ten milligrams tetrahydrocannabinol for one dose, serving, or single wrapped item.
- No manufactured cannabis product that is sold in a pack of multiple doses, servings, or single wrapped items, or any containers of oils, shall contain a total of more than one hundred milligrams of tetrahydrocannabinol per pack or container.
  
- **Labeling specifications**

Pursuant to HAR §11-850-92(b), each package will be labeled using only black lettering on a white background with no pictures or graphics and shall include:

- Information about the contents and potency of the cannabis and cannabis product, including but not limited to:
- Net weight in ounces and grams or volume and also the equivalent weight of the cannabis used to produce the cannabis product
- The concentration of tetrahydrocannabinol or  $\Delta 9$  tetrahydrocannabinol, total tetrahydrocannabinol and activated tetrahydrocannabinol-A, and cannabidiol
- The dispensary's license number and name of the production center where the cannabis was produced
- The batch number and the date of packaging
- A computer tracking inventory identification number barcode generated by tracking software
- Date of harvest or manufacture and "Use by date"
- The instructions for use

- The specific phrases “For medical use only” and “Not for resale or transfer to another person”
- Warnings must be included in labelling:
- “This product may be unlawful outside the State of Hawaii and is unlawful to possess or use under federal law”
- “This product has intoxicating effects and may be habit forming”  
“Smoking is hazardous to your health”
- “There may be health risks associated with consumption of this product”
- “This product is not recommended for use by women who are pregnant or breast feeding”
- “Cannabis can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug”
- “When eaten or swallowed, the effects of this drug may be delayed by two or more hours”
- The disclosure of the type of extraction method that was used, including any solvents, gases, or other chemicals or compounds used to produce the manufactured cannabis product
- The name of the independent laboratory that performed the testing
- The information from 1-7 will appear on the package and the rest of the information will appear on the package insert.
- The dispensary will not label as organic any cannabis or manufactured cannabis product unless permission has been granted by the US Department of Agriculture in accordance with the Organic Foods Production Act.

---

## Dispensary Facility Storage

---

Storage of medical cannabis and manufactured cannabis products will comply with all applicable state and local regulations. All medical cannabis and medical manufactured cannabis products will be stored in a secure access area for nightly storage at the close of operations each day. All storage areas will have adequate lighting. This is also explained in the facility layout section. After cannabis flower, trim, and manufactured cannabis products are processed, the facility manager secures them within the facility safe to wait for testing and shipment. After the cannabis and manufactured cannabis products pass required laboratory testing, they will be transferred to the retail facility or another retail facility for sale and distribution. These products will be maintained in the secured product storage area in commercial grade safes until transportation. This area shall be restricted to the retail manager.

### **Storage:**

A dispensary center shall:

- Not produce or maintain cannabis in excess of the quantity required for normal, efficient operation;
- Store all cannabis and manufactured cannabis products in a safe, vault or secured room and in such a manner as to prevent diversion, theft or loss;
- Maintain all cannabis that is not part of a finished product in a secure area or location within the dispensary center accessible only to specifically authorized personnel, which shall include only the minimum number of employees essential for efficient operation;
- Keep all approved safes, vaults, or other equipment or areas used for the production or storage of cannabis securely locked or protected from entry, except for the actual time required to remove or replace cannabis;
- Keep all locks and security equipment in good working order;
- Not allow keys to be left in the locks and not store or place keys in a location accessible to persons other than specifically authorized personnel;
- Not allow other security measures, such as combination numbers, passwords or electronic or biometric security systems, to be accessible to persons other than specifically authorized personnel; and
- Keep the dispensary center securely locked and protected from unauthorized entry at all times.
- If a dispensary center presents special security issues, such as extremely large stock of cannabis, exposed handling or unusual vulnerability to diversion, theft or loss, the department may require additional safeguards, such as supervised Watchman service.
- If a loss, theft or diversion of cannabis has occurred from a dispensary center, the dispensary center shall notify the department and the nearest SP district immediately. The department and SP shall determine the appropriate storage and security requirements for all cannabis in the dispensary center, and may require additional safeguards to ensure the security of the cannabis. If a reduction in the amount of medical cannabis in the dispensary center's inventory is due to suspected criminal

activity, the dispensary center shall immediately report the reduction to the department and SP, which may then notify local law enforcement.

- Any dispensary center whose permit is revoked or not renewed shall dispose of its entire stock of cannabis under conditions approved by the department.
- Any area of a dispensary center containing cannabis, including a room with an approved safe or approved vault, shall have a sign posted at all entryways, which shall be a minimum of 12 inches in height and 12 inches in length and shall state: *"Do Not Enter – Limited Access Area – Access Limited to Authorized Personnel Only"* in lettering no smaller than one inch in height.
- Notwithstanding the requirements of this Section, nothing shall prohibit members of the department, local law enforcement or other federal, State or local government officials from entering any area of a dispensary center if necessary to perform their governmental duties, or persons authorized by the department.
- Dispensary centers shall provide current copies of dispensary center floor plans to SP and local law enforcement that have jurisdiction in the area where the dispensary center is located.

---

## Sale and Distribution

---

The sale and distribution of all medical cannabis and manufactured cannabis products shall comply with all state and local laws and regulations. Management will properly train and educate all organization employees on proper sales and distribution procedures. All of our employees will be fully trained prior to commencing any sales or distribution activities.

**The sale and distribution of manufactured cannabis:**

All cannabis and manufactured cannabis products offered for sale at registered retail dispensing organizations shall be labeled in accordance with HAR §11-850-92(b). In accordance with §11-850-31 subsections (d), (e), and (f), a dispensary will not transfer any cannabis or manufactured cannabis products to any other dispensary nor accept any cannabis or manufactured cannabis products from any other dispensary.

---

## Product Information

---

Pursuant to HAR §11-850-61(a) for each batch of cannabis sold and/or transported, the following information shall be made available to the purchasing dispensary upon or prior to delivery:

- The batch number
- Whether the batch originated from cannabis seeds or cannabis cuttings
- The strain of the cannabis seeds or cannabis cuttings planted
- The number of cannabis seeds or cannabis cuttings planted
- The date on which the cannabis seeds or cuttings were planted
- A list of all chemical additives used in the dispensary, including, without limitation, nonorganic pesticides, herbicides and fertilizers
- The number of cannabis plants grown to maturity
- Harvest information, including, without limitation:
  - The date of harvest;
  - The final yield weight of processed usable cannabis; and
  - The name and medical cannabis establishment agent registration card number of the dispensary facility agent responsible for the harvest.

---

## Transportation

---

### **Transportation:**

Pursuant to HAR §11-850-61(a), the record of clear and unbroken chain of custody needs to be maintained at all stages. Prior to transporting any cannabis or cannabis-infused product, our dispensary center shall in accordance with HAR §11-850-36:

- Complete a shipping manifest using a form prescribed by the department that lists the components required by the department's tracking system.
- Only the cannabis products that are listed on the manifest shall be transported.
- Cannabis products that are being transported shall:
  - Only be transported in a locked, safe and secure storage containers.
  - Have a copy of the manifest in the interior and on the exterior of the container.
- Any motor vehicle transporting cannabis shall travel directly from the dispensary center to the dispensary facility, or a testing laboratory, and shall not make any stops that are not on the manifest. Exceptions will include a stop for refueling or, in case of an emergency. In case of emergency, the agents will report the emergency immediately to law enforcement through the 911 emergency system and the dispensary center, which will immediately notify the department.
- Our dispensary center shall ensure that all delivery times and routes are randomized and reduce the possibility of theft or diversion.
- Each delivery team member shall have access to a secure form of communication with personnel at the dispensary center and the ability to contact law enforcement through the 911 emergency systems at all times that the motor vehicle contains cannabis.
- Our dispensary center shall staff all transport motor vehicles with a minimum of two employees. At least one delivery team member shall remain with the motor vehicle at all times that the motor vehicle contains cannabis.
- For the transport between or among dispensary facilities, the transport package shall be packed, secured, and loaded and unloaded and unpacked in front of full view of security surveillance cameras.
- If there are any discrepancies between what is received and the manifest, they will be reported immediately to the department.
- Each delivery team member shall possess his or her department issued identification card at all times when transporting or delivering cannabis and shall produce it for the department or department's authorized representative or law enforcement official upon request.
- The dispensary will not transport cannabis or manufactured cannabis products:
  1. Off site to patients or caregivers
  2. To another county or another island within the same county
  3. To, from, or within any federal fort or arsenal, national park or forest,

FOR A MORE DETAILED DESCRIPTION OF THE TRANSPORTATION PLAN PLEASE REFER BACK TO THE SECURITY PLAN

---

## Product Recall Plan

---

If the dispensary's medical cannabis or manufactured medical cannabis product proves to be non-conforming upon retest pursuant to HAR §11-850-85(j), the dispensary will initiate a recall in accordance with the guidelines put forth by Consumer Product Safety Commission (CPSC). Manufacturers, importers, distributors and retailers of consumer goods are liable for the products they provide to consumers and face the potential of product recalls for potentially dangerous or hazardous products. The same is true for MMMD as a manufacturer and/or retailer of consumer medical cannabis products. As a result, the company may need to conduct a product recall in the future. For consumer products, the recall process is handled and regulated by the Consumer Product Safety Commission (CPSC), for all intents and purposes MMMD recall plan will follow the guidelines of the CPSC.

Firms often learn of potential product safety problems at an early stage. For this reason, companies involved in the manufacture, importation, distribution, or sale of consumer products should develop a system for maintaining and reviewing information about their products that might suggest that their product has a defect or poses an unreasonable risk of serious injury or death. Such information includes, but is not limited to, consumer complaints, reports of production problems, product testing, or other critical analyses of products.

Experts have shown that one of the best ways to ensure that a product recall is effective is to have a recall plan already in place and to execute the plan as quickly as possible. A well-thought out, well-executed recall plan can save lives and prevent injuries in addition to limiting damage our company's brand and bottom line.

The Consumer Product Safety Commission (CPSC) has compiled resources to assist companies that manufacture, import, distribute, retail, or otherwise sell consumer products. CPSC has developed a Recall Handbook that can be utilized in case a product recall needs to be ordered. The Recall Handbook details how to recognize potentially hazardous consumer products as soon as possible. The book explains how to develop and implement a "*corrective action plan*" (called a CAP) to address the hazards; it explains CPSC's Fast Track Program.

The Recall Handbook also discusses how to communicate recall information to consumers and how to monitor product recalls. The Consumer Product Safety Commission's Recall Handbook will be a valuable tool utilized by MMMD if the need for a product recall ever arises.

The Recall Handbook should be referenced to determine exact protocol for recall and the requirements from the Consumer Product Safety Commission. The Recall Handbook can be obtained online from <http://www.cpsc.gov/PageFiles/106141/8002.pdf>. MMMD will carefully review the Recall Handbook in order to:

- Become familiar with their reporting requirements under sections 15(b) and 37 of the Consumer Product Safety Act, and Section 102 of the Child Safety Protection Act, Pub. L. 103-267;

- Help learn how to recognize potentially hazardous consumer products as soon as possible; and
- Develop and implement "*corrective action plans*" that address the hazards if we discover we have manufactured, imported, distributed, or retailed such products.

## **Recall Regulations**

### **Per §11-850-85(j):**

Dispensary centers shall establish, maintain and comply with the policies and procedures contained in the Operations and Management Practices Plan, approved by the Department, for the production, security, storage, inventory and distribution of cannabis products. The policies and procedures shall include methods for identifying, recording and reporting diversion, theft and loss, and for correcting all errors and inaccuracies in inventories. We will include in our written policies and procedures a process for the following:

- Handling mandatory and voluntary recalls of cannabis or manufactured cannabis products. The procedure shall be adequate to deal with:
  - Recalls due to any action initiated at the request of the department and any voluntary action to remove from the market defective or potentially defective cannabis or cannabis infused products, or any product that has failed laboratory testing as required by this Part or has been found to have a reasonable probability that its use or exposure will cause serious adverse health consequences; and
  - Any action undertaken to promote public health and safety by replacing existing cannabis or manufactured cannabis products with improved products or packaging.

### **Recall:**

A dispensing organization must establish a policy for communicating a recall for cannabis or a cannabis-derived product that has been shown to present a reasonable or a remote probability that use of or exposure to the product will cause serious adverse health consequences. Our policy will include:

A mechanism to contact all customers who have, or likely have, obtained the product from the dispensary. The communication will include information on the policy for return of the recalled product;

- A mechanism to contact us;
- Communication with the department within 24 hours; and
- Outreach via media, as necessary and appropriate.
- Any recalled cannabis product will be disposed of by the dispensing organization.

## ***When to Recall Medical Cannabis Products***

As a manufacturer, distributor, and/or retailer of consumer products, MMMD has a legal obligation to immediately report the following types of information to the Consumer Product Safety Commission:

- A defective product that could create a substantial risk of injury to consumers;
- A product that creates an unreasonable risk of serious injury or death;
- A product that fails to comply with an applicable consumer product safety rule or with any other rule, regulation, standard, or ban under the CPSA or any other statute enforced by the CPSC;
- An incident in which a child (regardless of age) chokes on a marble, small ball, latex balloon, or other small part contained in a toy or game and that, as a result of the incident, the child dies, suffers serious injury, ceases breathing for any length of time, or is treated by a medical professional; and
- Certain types of lawsuits. (This applies to manufacturers and importers only and is subject to the time periods detailed in Sec. 37 of the CPSA.)
- Failure to fully and immediately report this information may lead to substantial civil or criminal penalties. Consumer Product Safety Commission's staff advice is "*when in doubt, report.*" MMMD will ensure communication with the Division, the DOA and the DOH within 24 of becoming aware of the need for a product recall. MMMD will then proceed to recalling protocol and how to recall the product.

## ***How to Recall Medical Cannabis Products***

MMMD will develop a recall plan following guidance from the Recall Handbook provided by the CPSC. Once the need for a product recall has been determined, MMMD will proceed with the product recall Corrective Action Plan (CAP). If the need for a product recall arises, we will have inventory management systems in place to determine and pinpoint which products to recall, how many of those products are in the supply chain, and will be able to determine exactly where those products are within the supply chain. The inventory management systems and procedures required by State Regulations will ensure a streamlined recall process if ever necessary.

- **Corrective Action Plan (CAP)**

A corrective action plan is defined as improvements to an organization's processes taken to eliminate causes of non-conformities or other undesirable situations. The goal of a corrective action plan should be to retrieve as many hazardous products from the distribution chain and from consumers as is possible in the most efficient, cost-effective manner. The CAP will outline the procedures and steps MMMD needs to take once a product recall is required.

- **Step One: Industry Notification**

If medical cannabis or medical manufactured cannabis products are believed to need to be recalled, MMMD will contact all wholesale partners and dispensing organizations to make them aware of the situation and the need for product recall. MMMD will also contact the department within 24 hours of obtaining reportable information. As the wholesaler of the product needing to be recalled, contacting the end users of the recalled product; medical cannabis patients, will prove difficult if not impossible. At this stage of the recall, dispensing organizations will need to ensure that they have a proper recall process in place to contact the end users of the product being recalled.

- **Step Two: Public Notification**

Dispensary center will post notifications about the product recall on its website as well as making partnering dispensary centers and dispensing organizations aware of the product recall. The actual recalling processes will be handled by the dispensing organizations with help and support from the dispensary center.

As the dispensing organization issuing a recall notice it will be important to reach the end users or the recalled product. MMMD will post notification about the recall on MMMD websites and social media as well as post written notices of the recall on location for patients and customers to view. The recall notice will include all pertinent information regarding the product being recalled, contact information and other information relating to the recall. Information will include but not be limited to:

- Product name
- Product batch number
- Dispensing date range of recalled product
- Dispensing organization locations

Once the recall notification has been issued to all applicable dispensing organizations and medical cannabis patients, MMMD will wait to receive recalled products from dispensing organizations and/or licensed medical cannabis patients. Once recalled products have been received, MMMD will properly dispose of all recalled products.

- **Step Three: Procurement**

The dispensing organization issuing a product recall to medical cannabis patients will need to be ready to obtain and secure recalled products from patients. Patients should be able to bring in the products being recalled to the dispensing organization's location. It will be at the dispensing organization's discretion whether to issue a refund, replace the recalled product at no cost, or to take other measures.

- **Step Four: Documentation and Record Retention**

MMMD will maintain all documentation and records regarding any and all product recalls issued.

- **Step Five: Disposal**

MMMD will ensure that any and all recalled cannabis products are disposed of according to all state and local regulations. MMMD will follow waste destruction and disposal procedures outlined below for proper disposal of recalled cannabis and manufactured cannabis products.

---

## Cannabis Waste – Destruction and Disposal

---

All waste, including waste composed of or containing finished cannabis, such as infused products and extracts, will be stored, secured, and managed in accordance with applicable state and local statutes, ordinances, and regulations including but not limited to section. The dispensary facility shall maintain a record of all disposals for a minimum of six years. Facility management will ensure proper training and implementation of destruction and disposal procedures and protocols.

### ***Waste Processing Center***

The dispensary facility shall contain a designated waste holding and processing room designed to keep waste secured and segregated from the rest of the dispensary facility. The entire waste processing center shall be recorded on high definition video and remain locked at all times. The processing center shall contain a shredder/grinding machine, multiple containment vessels, at least two mixing containers, additional processing medium/substrates, and interior entrance and exterior exit points. Preparation of waste shall be contained within the secured processing center in order to prevent any cross-contamination with any dispensary areas or product processing areas, and avoid any possibility of product diversion.

### ***Secured Waste Collection***

The following process explains how the dispensary facility staff will maintain security and avoid diversion. Green waste will be collected throughout the day in designated receptacles that are secured, locked and tracked on video. At the end of the day the on-site quality control manager along with another staff member will collect all the waste and weigh it out on video. All information will be recorded including, weight, time, date, employee names and signatures. The green waste will then be stored within a locked and secured designated waste processing room and continuously monitored on video until the time of disposal. All cannabis shall be rendered unusable prior to disposal by following the methods for disposal.

### ***Disposing of Waste***

A minimum of seven days prior to rendering the secured green waste unusable and disposing of said waste, an agent from the dispensary facility team shall utilize the traceability system. Immediately before the green waste is processed for disposal it shall be re-weighed by the quality control manager and at least one other staff member and all information will be recorded including, weight, time, date, employee names and signatures. After capturing all pertinent data, logging, and entering into the company SIS, all waste shall be rendered unusable and prepared for either compostable or non-compostable disposal. The dispensary facility compliance manager shall oversee the entire waste disposal process and ensure it is done. All waste processing and disposal shall be recorded on video surveillance.

## **Materials Needed for Processing Green Waste**

*Compostable materials:* Food waste, yard waste, vegetable grease or oils, other waste approved by the Department of Agriculture such as biodegradable paper products.

*Non-compostable materials:* Paper waste, cardboard waste, plastic waste, soil or other waste approved of by the Department.

## **Process for Rendering Cannabis Unusable**

Place cannabis in grinder and mulch until all pieces are smaller than .5 centimeters in length.

Mix the cannabis thoroughly with other ground materials so that the resulting mixture is a minimum of 50% non-cannabis waste from the above list or other waste approved by the department.

## **Disposal of Cannabis Waste Rendered Unusable**

Once waste has been processed in a manner consistent with company policy and department policy, it will be transported to a permitted waste facility for final disposal. All compostable waste will be delivered to compost, anaerobic or other facility approved by the jurisdictional health department. All waste prepared for non-compostable disposal will be delivered to an approved landfill, incinerator, or other facility with approval from the jurisdictional health department.

- **Liquid Waste**

The dispensary center compliance manager will ensure all liquid waste is disposed of in a manner consistent with requirements placed within the Illinois Environmental Protection Act specific to the substance being disposed of.

- **Hazardous Waste**

The dispensary center compliance manager will ensure that all hazardous and chemical waste is disposed of in a manner consistent with federal, state, and local laws.

## **State Regulations**

Cannabis and manufactured cannabis products shall be destroyed by rendering them unusable following the methods set forth in this section.

- At least seven days prior to rendering cannabis unusable and disposing of it, the dispensing organization shall notify the Division and SP. Notification shall include the date and time the cannabis will be rendered unusable and disposed. If the dispensing

organization's policy designates the destruction of cannabis on the same day and time weekly, communication of that day and time shall be sufficient to comply with this subsection (b). Any change in the date and time must be communicated to the Division and SP.

- The allowable method to render cannabis waste unusable is by grinding and incorporating the cannabis waste with other ground materials so the resulting mixture is at least 50% non- cannabis waste by volume. Other methods to render cannabis waste unusable must be approved by the Division before implementation. Material used to grind with the cannabis falls into two categories, compostable waste and non-compostable waste.
- Compostable Mixed Waste: Cannabis waste to be disposed as compost feedstock or in another organic waste method (for example, anaerobic digester) may be mixed with the following types of waste materials:
  - Food waste;
  - Yard waste;
  - Vegetable based grease or oils; or
  - Other wastes as approved by the Division (e.g., agricultural material, biodegradable products and paper, clean wood, fruits and vegetables plant matter).
- Non-compostable Mixed Waste: Cannabis waste to be disposed in a landfill or by another disposal method may be mixed with the following types of waste materials:
  - Paper waste;
  - Cardboard waste;
  - Plastic waste;
  - Soil; or
  - Other wastes as approved by the Division (e.g., non-recyclable plastic, broken glass, leather).
- Cannabis waste rendered unusable following the methods described in this section can be disposed. Disposal of the cannabis waste rendered unusable may be delivered to a permitted solid waste facility for final disposition. Examples of acceptable permitted solid waste facilities include:
  - Compostable Mixed Waste: Compost, anaerobic digester or other facility with approval of the jurisdictional health department.
  - Non-compostable Mixed Waste: Landfill, incinerator or other facility with approval of the jurisdictional health department.
- All waste and unusable product shall be weighed, recorded and entered into the inventory system prior to rendering it unusable. Verification of this event shall be performed by an agent-in-charge and conducted in an area with video surveillance.
- Electronic documentation of destruction and disposal shall be maintained for a period of at least six years.

MAUI  
County

**MAUI MEDICAL**  
MARIJUANA DISPENSARY LLC

Retail Dispensing Facility  
Operations Manual

---

# Table of Contents

---

<b>INTRODUCTION.....</b>	<b>6</b>
<b>STAFF SCHEDULE.....</b>	<b>7</b>
<b>ORGANIZATIONAL CHART .....</b>	<b>8</b>
<b>JOB DESCRIPTIONS.....</b>	<b>9</b>
<i>DIRECTOR OF RETAIL DISPENSARY OPERATIONS.....</i>	<i>9</i>
<i>DIRECTOR OF PATIENT EDUCATION.....</i>	<i>9</i>
<i>PUBLIC HEALTH PROGRAM MANAGER.....</i>	<i>9</i>
<i>DISPENSARY MANAGER.....</i>	<i>10</i>
<i>SECURITY MANAGER.....</i>	<i>10</i>
<i>DISPENSARY AGENT.....</i>	<i>10</i>
<i>SECURITY AGENT.....</i>	<i>10</i>
<b>DISPENSARY EMPLOYEE SERVICES.....</b>	<b>11</b>
<i>PAYCHEX SERVICES.....</i>	<i>11</i>
• <i>Payroll Services.....</i>	<i>11</i>
• <i>Employee Handbook.....</i>	<i>11</i>
• <i>Employee Assistance Program (EAP).....</i>	<i>11</i>
• <i>Applicant Tracking System (ATS).....</i>	<i>11</i>
• <i>Safety Plan.....</i>	<i>12</i>
<i>TRAINING.....</i>	<i>12</i>
<i>RECORD KEEPING.....</i>	<i>12</i>
• <i>Inventory Tracking.....</i>	<i>12</i>
• <i>Dispensing Limitations.....</i>	<i>13</i>
• <i>Financial Records.....</i>	<i>13</i>
• <i>Entry and Exit Logs.....</i>	<i>13</i>
• <i>Employee Records.....</i>	<i>13</i>
<i>EMPLOYEE HANDBOOK.....</i>	<i>14</i>
<i>STAFF MEETINGS.....</i>	<i>15</i>
• <i>Team Meetings.....</i>	<i>15</i>
• <i>Shift Meetings.....</i>	<i>15</i>
<b>FACILITY MAP.....</b>	<b>16</b>
<b>ROOM AREAS &amp; DESCRIPTIONS.....</b>	<b>17</b>
<i>SECURED ENTRY.....</i>	<i>17</i>
<i>RECEIVING/UNPACKING AREA.....</i>	<i>17</i>
<i>WAITING ROOM AREA.....</i>	<i>17</i>
<i>CONSULTATION ROOMS.....</i>	<i>17</i>

DISPENSING AREA.....	17
REFERENCE MATERIALS AREA.....	18
ADMINISTRATIVE OFFICE.....	18
MAIN VAULT.....	18
KITCHEN/BREAK ROOM AREA.....	18
SECURE STORAGE.....	18
CHEMICAL STORAGE AREA.....	18
<b>EMERGENCY PROTOCOL.....</b>	<b>19</b>
ROBBERY OR THEFT.....	19
FIRE EMERGENCY.....	19
CHEMICAL SPILL.....	19
OTHER EMERGENCIES.....	19
<b>GOOD NEIGHBOR PLANS.....</b>	<b>20</b>
GOOD NEIGHBOR POLICY.....	20
ENVIRONMENTAL PLAN.....	21
REDUCED WASTE PLANS.....	22
EMPLOYEE CONSERVATION.....	22
<b>INVENTORY MANAGEMENT.....</b>	<b>23</b>
INVENTORY METHODOLOGY.....	23
INVENTORY MANAGEMENT.....	23
INVENTORY CONTROL.....	23
• Initial inventory documentation.....	24
• Weekly inventory documentation.....	24
• Daily Inventory Documentation.....	24
• Product Transfer Inventory Documentation.....	25
• Sales and Disposal Records:.....	25
• Documentation of Inventory Discrepancies.....	25
• Waste Inventory Documentation.....	26
• Inventory Record Keeping.....	26
• Loss or Theft.....	26
CHAIN OF CUSTODY.....	26
LOSS AND DIVERSION.....	26
ANNUAL INVENTORY PROCEDURE.....	28
<b>SECURITY/VIDEO SURVEILLANCE.....</b>	<b>29</b>
ROLE OF THE SECURITY DEPARTMENT.....	29
SERVICE AS A FUNCTION OF SECURITY.....	29
THREAT MANAGEMENT.....	30
INCIDENT RESPONSE.....	30

PATIENT CONFIDENTIALITY (SECURE STORAGE) .....	31
VIDEO SURVEILLANCE .....	31
<b>PATIENT MANAGEMENT PLAN .....</b>	<b>33</b>
SUMMARY .....	33
NEW PATIENT REGISTRATION .....	33
• Dispensing Limit .....	33
• Patient Records .....	33
• Interpretative Services .....	34
<b>PATIENT EDUCATION.....</b>	<b>35</b>
REQUIRED MATERIALS AND INFORMATION .....	35
EDUCATION MATERIAL RESTRICTIONS .....	35
DOCUMENTATION .....	35
<b>LOSS AND DIVERSION .....</b>	<b>36</b>
<b>PRODUCT TRANSPORT .....</b>	<b>38</b>
TRANSPORT SUMMARY .....	38
AUTHORIZED TRANSPORT EMPLOYEE TRAINING .....	38
• Manifest Requirements .....	38
• Secure Containers .....	38
• Route Requirements .....	39
<b>SALES AND DISTRIBUTION .....</b>	<b>40</b>
SUMMARY .....	40
HOURS OF OPERATION .....	40
IDENTIFICATION REQUIREMENTS .....	40
POINT OF SALE SYSTEM (POS).....	40
LAWFUL TRANSACTIONS.....	40
DISPLAY OF PRODUCT.....	41
REFUSAL OF SALE.....	41
• Risk to Patient or the Public.....	41
• Suspected Diversion.....	41
CASH MANAGEMENT .....	41
• Internal Controls .....	41
• Cash Security Procedures .....	42
• Dispensing to Patients.....	42
<b>LOGS &amp; RECORD KEEPING .....</b>	<b>43</b>
CULTIVATION CENTER RECORDS .....	43
TRACKING/LOGGING WORKFLOW AND PERTINENT DATA.....	43

*INFORMATION RECORDING LOGS* ..... 44

- *Visitor Log*..... 44
- *Cleaning Log* ..... 44
- *Maintenance Log*..... 44

*SALES RECORDS* ..... 44

**SEED TO SALE TRACKING** ..... **45**

---

## Introduction

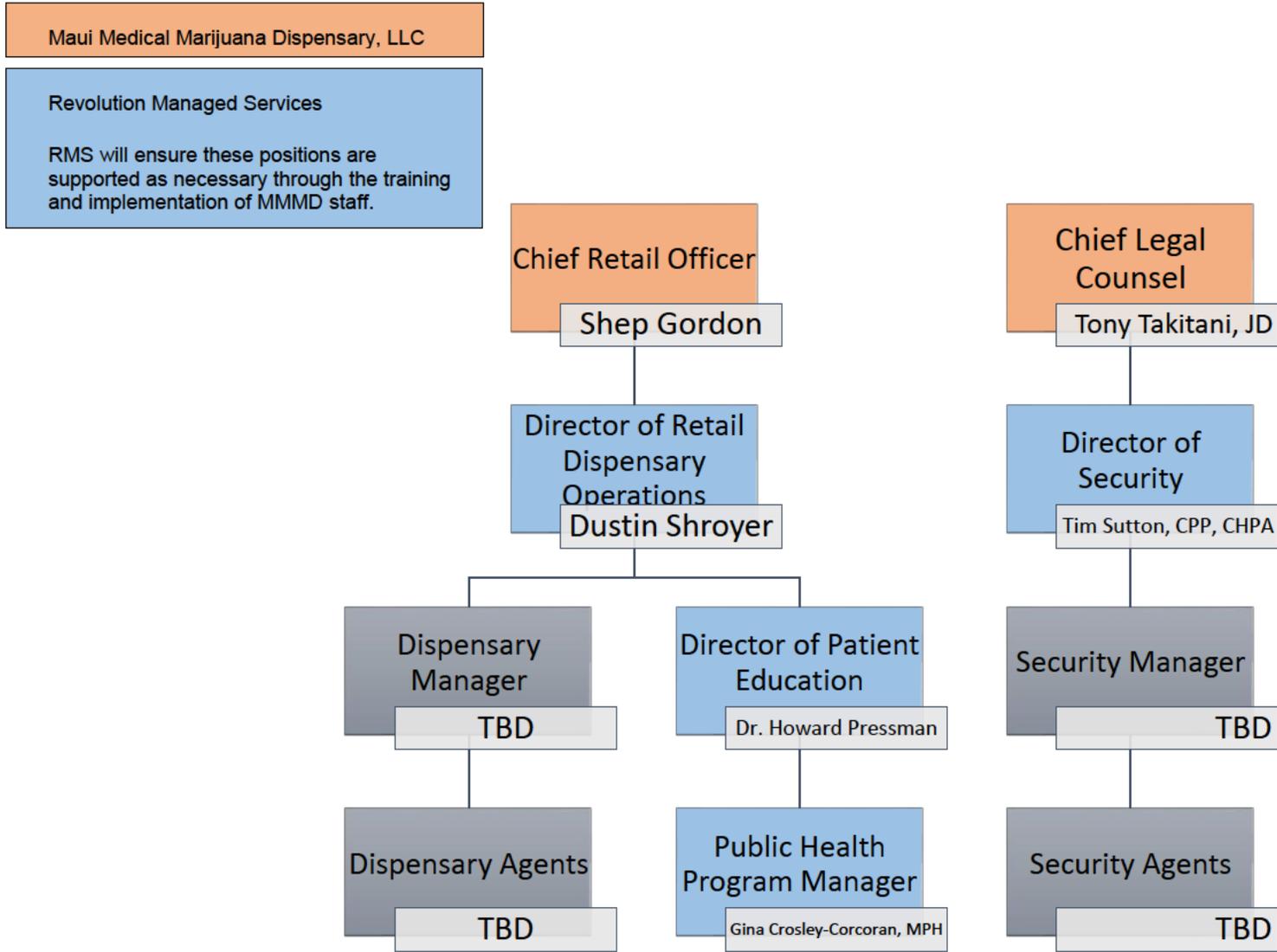
---

**Maui Medical Marijuana Dispensary LLC**, intends to set the standard for the production and dispensing of the highest quality, purest, and most consistent medical grade Cannabis in the State of Hawaii. We will accomplish this through the use of state of the art, proprietary cultivation facilities and equipment, conveniently located and effectively managed Dispensing Locations, and highly trained staff. Our established policies and procedures ensure that these facilities are utilized to their fullest potential and that resources are used as efficiently as possible in order to reduce our impact on local utilities, as well as areas surrounding our facility. Our Patients are our first concern. It is our intention to work with the Department, local law enforcement, and any other entities willing to assist us in this important endeavor, by sharing information and best practices whenever possible.

**Our Dispensing Locations** will provide qualifying patients the highest quality Cannabis and manufactured Cannabis products in a safe a secure environment. It is our intent to provide our patients with the latest information available from the medical community, warnings and requirements provided by the Department, as well as custom materials and information covering strain specific medical uses in order to assist them in choosing the safest and most effective medication prescribed by their physician. These medications will be dispensed in forms and quantities that comply with all of the Departments requirements. Unauthorized persons will be prevented from entering our dispensaries by our highly trained security staff using physical barriers, strict Identification documentation requirements, as well as 24-hour video surveillance of the entire facility.



# Organizational Chart



---

## Job Descriptions

---

### ***Director of Retail Dispensary Operations***

The Director of Dispensary Operations is responsible for conceptualizing, planning, prioritizing, and implementing all Dispensary Operations. The Director of Dispensary Operations will participate in the development of policies and procedures that are related to dealing with patients, and will ensure compliance with legal issues including but not limited to patient confidentiality and risk management.

Required experience, qualifications and education: a minimum of a Bachelor's degree, or ten to twelve years related experience and/or training, or equivalent combination of education and experience. Must be able to pass applicable background checks, and agree to comply with policies, procedures and confidentiality requirements as set forth by the employer.

### ***Director of Patient Education***

The Director of Patient Education is responsible for the strategic direction and implementation of patient education programs to support the company's goals. The incumbent will be expected to maintain current knowledge and trends within the medical cannabis industry, along with all of its regulations. Oversees all professional education activities, and takes ownership over successful participation rates, pre/post metrics tracking, and post education follow ups.

Required experience, qualifications and education: The Director of Patient Education should have a minimum of a graduate degree in pharmacy, medicine, nursing, public health, or a related field, and a minimum of five years' experience in Patient Education. Must be able to pass applicable background checks, and agree to comply with policies, procedures and confidentiality requirements as set forth by the employer.

### ***Public Health Program Manager***

Under the direction of the Director of Patient Education, the Public Health Program Manager will be responsible for ensuring patient education regarding the ways in which cannabis can be used to assist with debilitating medical conditions, as well as measuring and improving customer satisfaction through patient surveys and patient population analysis. The Public Health Program Manager will also manage healthcare services by keeping up-to-date on public health policies and regulations, as well as current information regarding HIPAA compliance and the maintenance of Protected Health Information.

Required experience, qualifications and education: A minimum of a Bachelor's degree in Public Health, Health Policy and Administration, or other related field of study. Master's Degree preferred. Two to five years' experience interacting with and educating

patients. Must be able to pass applicable background checks, and agree to comply with policies, procedures and confidentiality requirements as set forth by the employer.

### ***Dispensary Manager***

The Dispensary manager reports to the Director of Retail Dispensary Operations. The Dispensary manager will oversee all aspects of the Dispensing Location including but not limited to inventory controls, security concerns, cash handling procedures, patient education and satisfaction, good neighbor relations, employee training and certification, and any other procedures carried out by the Dispensing Location or as requested by the Director of Retail Dispensary Operations.

### ***Security Manager***

The Security Manager will report to the Director of Security. They will be responsible for the hiring, certification, training, scheduling and managing of Security Agents. They will be responsible for ensuring the security of employees, patients, and all company property. They will be responsible for ensuring safe delivery and of all cannabis and manufactured cannabis products. They will be responsible for the operation, regular maintenance, and storage of all video surveillance equipment and data. The security manager will ensure all agents are operating within the parameters set forth by the Department and the Department of Commerce and Consumer Affairs Professional and Vocational Licensing Law.

### ***Dispensary Agent***

Dispensary agents will report to the Dispensary Manager. They will be responsible for day to day operations of the Dispensary. They will receive training on all aspects of patient care, retail sales, safe handling practices, OSHA, HIPAA, and all other requirements of the Department. They will receive ongoing training and recertification as required by the Department. Dispensary Agents will not have access to patient data or secure storage areas unless accompanied by a Manager.

### ***Security Agent***

Security Agents will report to the Security Manager. They will be charged with the safety of patients, employees, and company property at all times. Security Agents will monitor the Dispensary using line of sight, as well as a video surveillance system that will operate 24 hours a day. Security Agents will oversee the facility to ensure that no unauthorized persons are allowed access to the Dispensary at any time. Security Agents will receive initial and ongoing training to ensure that they are always operating within the parameters set by the Department and the Department of Commerce and Consumer Affairs Professional and Vocational Licensing Law.

---

## Dispensary Employee Services

---

Pursuant to HAR §11-850-34, Maui Medical Marijuana Dispensary, LLC has established written policies and procedures governing the qualifications, recruitment, hiring, and training of operators, employees, and subcontractors working at the Retail Dispensing Location.

### **PayChex Services**

- **Payroll Services**

In addition to processing the organizations regular payroll for both exempt, and non-exempt employees, Paychex will ensure compliance with federal and state regulations in regards to payroll taxes by managing withholdings for federal, social security, Medicare, state & local taxes, and also provide end of year W-4 processing.

- **Employee Handbook**

Paychex offers a service that will assist in writing the employee handbook that implements company specific policies, and matches company culture, while still maintaining regulatory compliance with local, state, and federal law.

- **Employee Assistance Program (EAP)**

Provides employees, and their eligible family members access to BalanceWorks, a confidential service that provides assistance via quick online or telephonic support to assist with day-to-day issues, or improve work/life balance and enhance well-being. Assistance is made available via referrals, research, information, and/or price discounts in the following areas: Travel, child care, financial information, relocation, home projects, eldercare, pet care, automotive services, event planning, and medical information.

In addition, the EAP program offers a wellness program. The wellness program includes a comprehensive health risk assessment, up to three sessions with a personal wellness coordinator hot help navigate wellness services, 24/7 access to a virtual fitness trainer, and wellness tools, trackers, and articles.

- **Applicant Tracking System (ATS)**

Recruiting and applicant tracking will be streamlined through the use of the Paychex applicant tracking system to assist in creating a positive candidate & new hire

experience by providing a paperless software to express interest in open positions, storing job descriptions, and employee onboarding.

- **Safety Plan**

In order to protect the organization from costly non-compliance penalties, stabilize worker's compensation costs, enhance productivity, and reduce turnover, a sound safety plan is absolutely required. Paychex will assist in the development of the plan by writing a safety program manual tailored to the organization's needs, and provide on-demand WebEx safety trainings.

### ***Training***

Maui Medical Marijuana Dispensary LLC, will provide training upon hire as well as annually to each employee including but not limited to:

- Health, safety, and sanitation standards as required by the Department;
- Security procedures;
- Prohibitions and enforcement as described by HAR §11-850;
- Confidentiality and all other provisions of HAR §11-850 and chapter 329D, HRS that apply to the individual's scope of employment.

### ***Record keeping***

Maui Medical Marijuana Dispensary, LLC, will retain all records, both physical and electronic for a minimum of six years. Electronic data will be encrypted and stored on secure servers in secure storage areas under 24-hour video surveillance. Physical records will also be stored in a secure storage room under 24-hour surveillance. The secure storage room will have limited access. The Dispensary may utilize biometric security measures as well as pin number protection. Access Logs will be analyzed daily to ensure no unauthorized entry has occurred. Access Logs, as well as all other records required by the department in HAR §11-850-41, will be stored for a minimum of six years including but not limited to:

- **Inventory Tracking**

Inventory tracking including transport of Cannabis and manufactured Cannabis products.

- **Dispensing Limitations**

Sales records will be retained for each individual qualifying patient and primary caregiver to reflect compliance with dispensing limitations as required by HAR §11-850-42.

- **Financial Records**

Financial records including income, expenses, bank deposits and withdrawals, and audit reports.

- **Entry and Exit Logs**

Logs recording every individuals entrance and exit from the Dispensary.

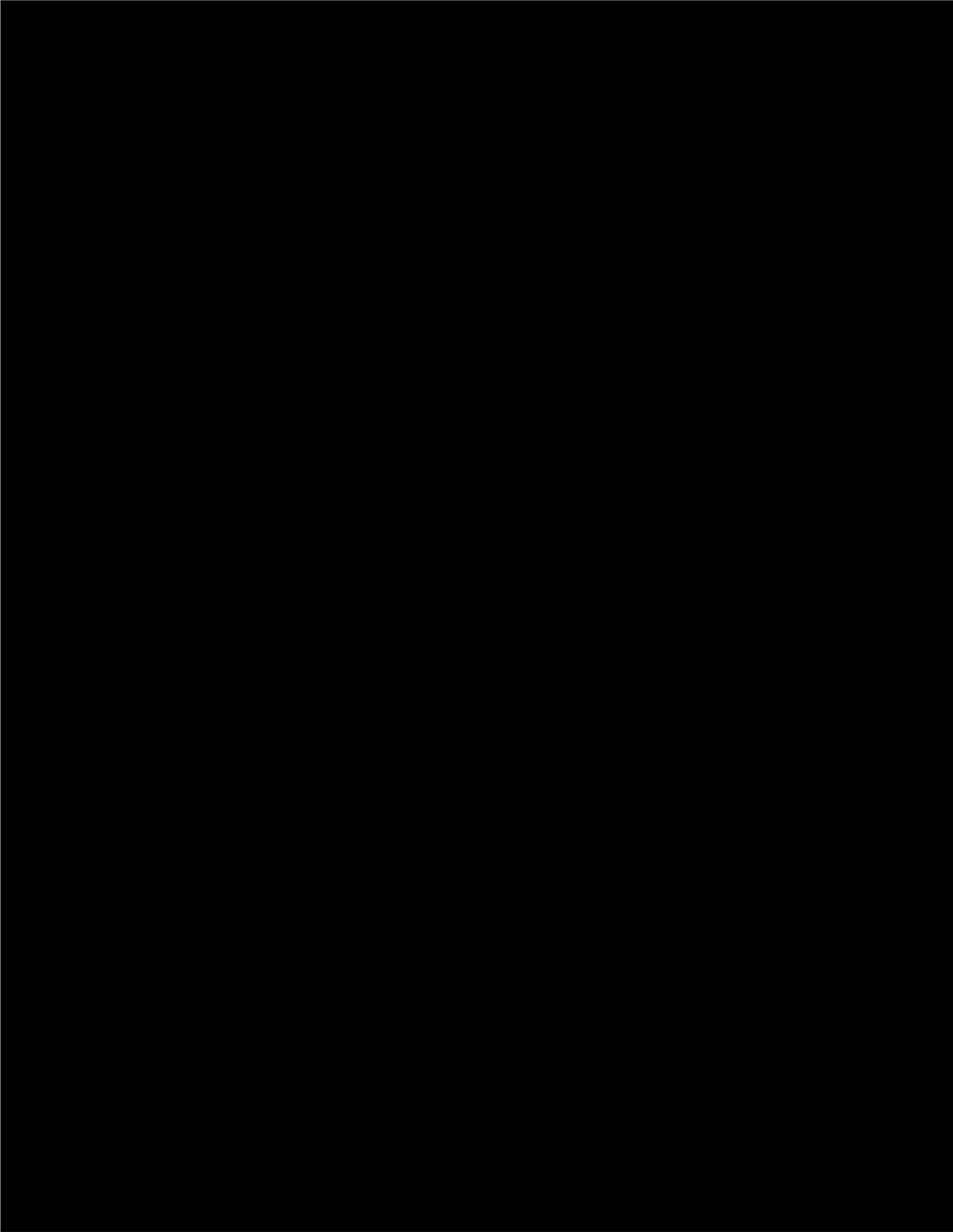
- **Employee Records**

## Employee Handbook

MMMC, LLC will utilize an employee handbook developed specifically for the unique operations of the manufacturing, production, and retail medical cannabis facilities. This handbook, developed by PayChex, Inc, includes the following elements:

Section 1: The Way We Work	Section 2: Your Pay and Progress
<ul style="list-style-type: none"> <li>• A Word About This Handbook</li> <li>• Building for the Future</li> <li>• Equal Employment Opportunity</li> <li>• Pregnancy Accommodation</li> <li>• Americans with Disabilities Act</li> <li>• A Word About our Employee Relations Philosophy</li> <li>• No Harassment</li> <li>• Categories of Employment</li> <li>• Anniversary Date</li> <li>• Driver's License/Driving Record</li> <li>• Certification, Licensing and Other Requirements</li> <li>• Immigration Reform and Control Act</li> <li>• New Employee Orientation</li> <li>• Suggestions and Ideas</li> <li>• Talk to Us</li> </ul>	<ul style="list-style-type: none"> <li>• Recording Your Time</li> <li>• Payday</li> <li>• Paycheck Deductions</li> <li>• Garnishment/Child Support</li> <li>• Performance Reviews</li> <li>• Pay Raises</li> <li>• Pay Advances</li> <li>• Overtime</li> </ul>
Section 3: Time Away from Work and Other Benefits	Section 4: On the Job
<ul style="list-style-type: none"> <li>• Employee Benefits</li> <li>• Holidays</li> <li>• Paid Time Off (PTO)</li> <li>• Jury Duty</li> <li>• Voting Leave</li> <li>• Election Judge Leave</li> <li>• Military Leave</li> <li>• Family Military Leave</li> <li>• Civil Air Patrol Leave</li> <li>• Volunteer Emergency Worker Leave</li> <li>• Volunteer Fire Protection Trustee Leave</li> <li>• Witness Leave</li> <li>• School Visitation Leave</li> <li>• Bereavement Leave</li> <li>• Leave of Absence</li> <li>• Domestic and Sexual Violence Leave</li> <li>• Medical Insurance</li> <li>• Dental Insurance for Children</li> <li>• COBRA</li> <li>• Federal Family and Medical Leave Act</li> <li>• Pregnancy Accommodation (Hawaii Employees)</li> <li>• Social Security</li> <li>• Unemployment Insurance</li> <li>• Workers' Compensation</li> <li>• Employee Assistance Program</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct at Client's Location</li> <li>• Confidentiality of Client Matters</li> <li>• Care of Client Records</li> <li>• Attendance and Punctuality</li> <li>• Meal Time</li> <li>• Lactation Breaks</li> <li>• Standards of Conduct</li> <li>• Access to Personnel Files</li> <li>• Client and Public Relations</li> <li>• Non-Solicitation</li> <li>• Distribution</li> <li>• Changes in Personal Data</li> <li>• Care of Equipment</li> <li>• Travel/Expense Accounts</li> <li>• Personal Property</li> <li>• Severe Weather</li> <li>• Natural Disasters</li> <li>• Personal Telephone Calls</li> <li>• Acceptable Use of Electronic Communications</li> <li>• Social Media</li> <li>• Security of Electronic Devices</li> <li>• Dress Policy</li> <li>• Personal Hygiene</li> <li>• Protecting Organization Information</li> <li>• Conflict of Interest/Code of Ethics</li> <li>• Outside Employment</li> <li>• If You Must Leave Us</li> </ul>
Section 5: Safety in the Workplace	
<ul style="list-style-type: none"> <li>• Each Employee's Responsibility</li> <li>• Workplace Violence</li> <li>• Workplace Searches</li> <li>• Hazard Communication</li> <li>• Smoking in the Workplace</li> <li>• No Weapons in the Workplace</li> <li>• Substance Abuse</li> </ul>	





---

## Room Areas & Descriptions

---

[REDACTED]

[REDACTED]

### ***Waiting Room Area***

This area will be under 24-hour video surveillance and, when possible, in full view of a security Agent. Patients in the waiting area may be provided with educational materials in the form of pamphlets and/or video presentations where available. These materials will always comply with all restrictions and limitations placed on materials produced by the Retail Dispensing Location as described by the Department.

### ***Consultation Rooms***

These rooms will never contain Cannabis or manufactured Cannabis products. These rooms are provided for one-on-one consultations between trained staff and patients. All state required materials and information can be presented to the patient here.

### ***Dispensing Area***

This area of the Retail Dispensing Location will be under 24-hour video surveillance and its occupancy will be controlled to maintain a ratio of one staff member for every two patients' maximum as required by 11-850-53(3). Access to this area will be limited to essential staff and patients only.

### **Reference Materials Area**

This area of the dispensary will house literature available for use during consultations. All literature stored here will conform to restrictions and requirements set forth by the department in HAR §11-850.

### **Administrative Office**

The administration office can be used for secure packing and unpacking of secure transport containers. It will also be used for all administrative purposes including cash procedures, training procedures, and other procedures requiring a secure area under video surveillance.



### **Kitchen/Break Room Area**

Where present, the break room area will be used for employee meal and rest breaks, as well as occasional use for team meetings and other gatherings requiring semi private space. This area will not be accessible by patients.



### **Chemical Storage Area**

All chemicals for cleaning, as well as pest control, will be held in the chemical storage area of the facility. The Dispensary manager will maintain this area and ensure information about chemicals is readily available by maintaining:

- An on-site chemical list;
- Material safety data sheets (MSDS) for all chemicals; and
- An emergency spill kit.

---

# Emergency Protocol

---

Maui Medical Marijuana Dispensary LLC, will establish emergency procedures and protocols to be implemented company wide. Employees will be fully trained on emergency protocols once employed by the company. Emergency protocols will be developed for robbery or theft, fire emergency, chemical spill and for other emergencies as needed.

## ***Robbery or Theft***

- If being robbed at gunpoint or you feel your life is in danger, comply with all requests from perpetrator. Give them whatever they ask for.
- Try to signal for help through security panic buttons provided or through the panic button or police services button located on the alarm panel.
- Contact police as soon as possible
- Notify any required state or local authorities

## ***Fire Emergency***

- If fire is small and isolated, try to exhaust the fire with one of the fire extinguishers.
- In case of a fire emergency, dial 911 for Fire Department or push the symbol on the alarm panel for fire emergency.

## ***Chemical Spill***

- Try to use chemical spill kit for smaller incidents of chemical spill.
- If chemical spill is large or you do not know how to handle the situation, get the Dispensary Manager to handle the situation.

## ***Other Emergencies***

- Contact 911 for break-ins or burglaries.
- Contact any required state or local authority in cases of theft, break-ins or burglaries.

---

## Good Neighbor Plans

---

As an organization we realize that when we begin operations we will become a member of the surrounding communities and as such we want to become a valuable and productive member within said communities. Safety for our employees and the surrounding communities is of utmost importance to our organization. We have plans to develop and implement community outreach programs. Such programs and events will include food and clothing drives for local food banks, churches, and others. A plan to donate a certain percentage of yearly profits to schools and infrastructure of the surrounding community is also in development.

### ***Good neighbor policy***

It is our policy to implement and execute a Good Neighbor Plan and respond to any reasonable complaint immediately to the complainant with a proposed solution and within 10 days or as requested by the Hawaii Department of Health. All neighbor communications must be maintained as part of the company record.

The intent is one of mutual respect between neighbors; to avoid adversarial positions, to treat others as one would like to be treated; to keep an open mind; and be willing to cooperate with neighbors with a goal of creating a safe and healthy neighborhood environment.

MMMD, LLC has worked hard to build positive relationships with the residents and businesses in our neighborhood. To be a qualified patient or primary caregiver associated with MMMD, LLC you are required to agree and comply with the following rules:

- Medical cannabis is dispensed at this facility to qualifying patients and primary caregivers only, as per Hawaii Department of Health Rules & Regulations.
- No medication from this facility may be transferred, gifted, sold, disseminated, or otherwise transmitted to anyone other than the visiting qualified patient or primary caregiver. All medical cannabis products are solely intended for the qualified patient who receives them, or for the qualified patient that a designated caregiver serves.
- Always have your Hawaii 329 Card and your valid ID ready when visiting MMMD, LLC. Hawaii DOH Administrative Rules 11-160-31 (a) requires all qualifying patients to have their Hawaii 329 Card and valid ID whenever in possession of medical cannabis, i.e. traveling from location to location with medical cannabis.
- Do not leave children under 6 years old unattended in the parking lot or in your vehicle. Children must be supervised by a person 12 years of age or older.
- Handicap parking is available in our lot as well as ample on street public parking. Never park your car in a neighbor's lot or in a bus stop. Overnight parking is NOT allowed.

- Loitering is prohibited and closely monitored. Do not linger in your car or on the sidewalk after visiting MMMD, LLC.
- In order to keep the area around our facilities safe and secure for our staff, qualifying patients and community, we will actively ensure that unauthorized individuals are not allowed to loiter or remain on our premises.
- Keep all medicine out of sight when you exit and as you drive away.
- Do not use medical cannabis and operate heavy machinery or a motor vehicle.
- Please keep in mind your own safety while obtaining medication. In order to provide safe access for our qualifying patients, we stress that medication be taken in the privacy of your own home.
- Help us keep the neighborhood clean. Dispose of trash & recyclables in proper receptacles.
- NO CONSUMPTION OF ANY MEDICATION IS PERMITTED AT OR WITHIN 1000 FEET OF THE DISPENSARY, NO EXCEPTIONS!
- WE RESERVE THE RIGHT TO REFUSE SERVICE TO ANYONE, FOR ANY REASON.
- If any patient or primary caregiver violates any of these rules, they may be subject to membership revocation and loss of all privileges that comes with membership.
- Thank you for respecting our good neighbor policy and welcome to MMMD, LLC!

### ***Environmental Plan***

Conservation and the reduction of our carbon footprint within the communities we operate in is a primary objective of the organization. This will be implemented throughout the entire organization and at every facility. We will look for new and innovative ways to reduce our carbon footprint within the dispensing facility and/or the Cultivation organization facility. 'Reduce, Reuse, and Recycle' will be implemented on an organization-wide scale.

Environmental sustainability is of the highest priority in order to promote a sustainable community and ensure the impact of our business is positive and influential in achieving future environmental goals. In order to reach this goal, we have contracted designers, engineers and consultants who will design intelligently, utilize energy intelligently, and strive for procedures that lead to zero waste. Various factors will be considered thoroughly when planning equipment, procedures, and methodology including air quality, climate, ecological health, energy efficiency, water quality, transportation, and waste.

The Retail Dispensing Location management will also create and implement an employee conservation plan. The employee conservation plan will detail specific actions employees can take for conservation efforts to try and reduce their carbon footprint. A possible reward program may be created and implemented to reward facility employees for conservation efforts.

## ***Reduced Waste Plans***

Plans to reduce waste throughout the facility will be accomplished by recycling and reuse whenever possible.

## ***Employee Conservation***

Team members within the dispensary facility will recycle all paper and plastic waste products. Energy efficient lights and equipment will also be utilized within the facility. We will also create programs within the organization that will encourage and reward employees for their personal conservation efforts, such as carpooling and riding a bike to work.

---

# Inventory Management

---

## ***Inventory Methodology***

Maui Medical Marijuana Dispensary LLC will utilize the FIFO inventory model, or First-In-First-Out—FIFO. This implies that the Retail Dispensing Location's oldest inventory items are sold first. Facility management shall ensure that all employees are trained properly on the inventory method to ensure that the oldest products are being sold first. It is our intention to track the physical location of all Cannabis and Manufactured Cannabis products using BioTrack, in real time. The Department will be provided access to that data at all times.

## ***Inventory Management***

Inventory management is a critical factor in every area of the dispensary. The tracking of all medical cannabis from seed-to-sale will be done through an advanced inventory control system with multiple checks and balances in place to allow our staff to have a complete awareness of all inventory including: Pre-packaged Cannabis Flowers, Pre-packaged cannabis infused products, and waste. All data collected shall be recorded through the use of template log sheets, computer systems, BioTrack, and Point-of-Sale systems (POS). Physical inventory counts will be done on a daily, weekly, and monthly basis at the Dispensary. In addition to scheduled inventory checks, random audits will be performed. Inventory control procedures shall be utilized as the primary way of determining whether there has been any product diversion and ensuring that all medical cannabis and cannabis-infused products are only being distributed to valid state approved medical cannabis patients.

Physical inventory template log sheets will be filled out each morning before the start of business and again at the closure of business. All weekly inventory procedures shall be conducted in full compliance with HAR §11-850. Data collected during daily, weekly, annual and random inventory procedures shall be logged and input into computer, BioTrack, and POS systems. Inventory figures will be cross-referenced with the POS system inventories and data to determine that there are no quantity discrepancies. In the case of a discrepancy within inventory, we will investigate the root cause of the discrepancy to determine the cause. If the discrepancy is due to employee theft or diversion, we will act quickly to terminate the employment of the perpetrator and contact all necessary authorities for further action. All inventories, procedures, and other documents required by the department shall be maintained on the premises for six years and made available to the department at all times.

## ***Inventory Control***

Our organization shall designate in writing, a Dispensary Agent who has oversight of the inventory control system of the Dispensary. The compliance manager will be

responsible for oversight of the inventory control system. The following information outlines how the Dispensary facility staff will maintain inventory control within the Dispensary facility.

The compliance manager is the designated agent who shall oversee the Dispensary facility inventory control system at all times in order to ensure that daily inventory documentation, product transfers, inventory discrepancies, and record keeping are always maintained and up to the minute. The appropriate Dispensary facility staff member shall document the following items as they occur:

- **Initial inventory documentation**

Prior to commencing business, the Dispensary center compliance manager shall:

- Document that the Dispensary center has commenced business with no cannabis on hand, and recorded this fact as the initial inventory.
- Establish ongoing inventory controls and procedures for the conduct of inventory reviews and comprehensive inventories of cannabis, which shall enable the cultivation center to detect any diversion, theft or loss in a timely manner.

- **Weekly inventory documentation**

Upon commencing business, each cultivation center compliance manager shall ensure a weekly inventory of cannabis stock, which shall include, at a minimum:

- The date of the inventory;
- Summary of the inventory findings;
- The name, signature and title of the individuals who conducted the inventory and the agent-in-charge who oversaw the inventory; and
- The product name and quantity of cannabis flowers or cannabis-infused products at the facility.

- **Daily Inventory Documentation**

The compliance manager shall establish and implement an inventory control system that documents each of the following:

- Each day's beginning inventory
- Acquisitions
- Sales
- Disposal of unusable Cannabis
- Ending inventory

- **Product Transfer Inventory Documentation**

When transferring medical Cannabis to another medical Cannabis establishment, the following information shall be recorded in BioTrack:

- The amount, strain, and batch number of medical Cannabis provided to the medical marijuana establishment;
- The name and medical marijuana establishment registration certificate number of the other medical marijuana establishment;
- The name and medical marijuana establishment agent registration card number of the medical marijuana establishment agent who received the medical Cannabis on behalf of the other medical marijuana establishment; and
- The date on which the medical Cannabis was provided to the medical marijuana establishment.

- **Sales and Disposal Records:**

Per HAR §11-850-36, the compliance manager shall ensure documentation of all medical cannabis sold or otherwise disposed, including but not limited to:

- The date of sale;
- The name of the state approved patient to which the medical Cannabis was sold;
- The batch number, product name and quantity of Cannabis sold; and
- If applicable, the date, quantity, manner in which, and reason why any Cannabis was destroyed.

- **Documentation of Inventory Discrepancies**

- If an agent from the Dispensary facility identifies a reduction in the amount of medical Cannabis in the inventory of the Dispensary facility not due to documented causes, the compliance manager shall determine where the loss has occurred and take and document corrective action. If the reduction in the amount of medical Cannabis in the inventory of the Dispensary facility is due to suspected criminal activity by an employee, the medical Marijuana establishment shall report the employee to the division and to the appropriate law enforcement agencies.
- Any loss or theft of medical Cannabis shall be documented and reported from the medical marijuana establishment to the appropriate law enforcement agency and to the department. The Dispensary facility head of security shall ensure copies of all documentation are maintained as required for at least six years after the date on the documentation and shall provide copies of the documentation to the Department for review upon request.

- **Waste Inventory Documentation**

All data pertaining to the disposal of all Cannabis that is not usable shall be tracked in the inventory control system including:

- A description of and reason for the Cannabis being disposed of;
- The date of disposal;
- Confirmation that the Cannabis was rendered unusable before disposal;
- The method of disposal; and
- The name and medical Cannabis establishment agent registration card number of the employee responsible for the disposal.

- **Inventory Record Keeping**

- The Dispensary facility compliance manager shall maintain the documentation required for at least six years after the date on the document and provide the documentation to the Department for review upon request.

- **Loss or Theft**

- In the event that any loss or theft of Cannabis or manufactured Cannabis products from the dispensing facility occurs, the compliance manager shall document and report the incident to the appropriate law enforcement agency and to the Department. All records and documentation required shall be maintained for a minimum of six years after the date recorded of the documentation. Copies of the documentation shall be made available to the Department for review upon request.

### ***Chain of custody***

The chain of custody of all Cannabis and manufactured Cannabis products shall be documented, through scanning and logging, at all times as it moves through each process within the dispensing location. Chain of custody documentation shall be maintained for six years and shall be made available to the Department and local law enforcement upon request.

### ***Loss and Diversion***

All Cannabis shall be stored in such a manner as to prevent diversion, theft or loss, and shall be returned to its secure location immediately after completion of the process or at the end of the scheduled business day. In order to ensure that Cannabis is securely stored and avoid any threat of loss and diversion, the Dispensary center shall:

- Not maintain Cannabis in excess of the quantity required for normal, efficient operation;
- Store all Cannabis and manufactured Cannabis products in a safe, vault or secured room and in such a manner as to prevent diversion, theft or loss;
- Keep all approved safes, vaults, or other equipment or areas used for the storage of Cannabis securely locked or protected from entry, except for the actual time required to remove or replace Cannabis;
- Keep all locks and security equipment in good working order;
- Not allow keys to be left in the locks and not store or place keys in a location accessible to persons other than specifically authorized personnel;
- Not allow other security measures, such as combination numbers, passwords or electronic or biometric security systems, to be accessible to persons other than specifically authorized personnel; and
- Keep the Dispensary center securely locked and protected from unauthorized entry at all times.

Any additional safeguards required by the Department in regard to special security issues, such as an unexpected, large stock of Cannabis, exposed handling or unusual vulnerability to diversion, theft or loss, will be complied with immediately.

If a loss, theft, or diversion of Cannabis has occurred from the dispensing location, the dispensing location manager shall notify the Department and the nearest police district immediately. The Department and Local Law Enforcement shall determine the appropriate storage and security requirements for all Cannabis in the Dispensing Location, and may require additional safeguards to ensure the security of the Cannabis. If a reduction in the amount of medical Cannabis in the dispensing location inventory is due to suspected criminal activity, the Dispensing Location agent in charge shall immediately report the reduction to the Department and Local Law Enforcement.

All areas of the Dispensing Location containing Cannabis, including any rooms with approved safes or approved vaults, shall have a sign posted at all entryways, which shall be a minimum of 12 inches in height and 12 inches in length and shall state: "Do Not Enter – Limited Access Area – Access Limited to Authorized Personnel Only" in lettering no smaller than one inch in height.

No Dispensing Location employees and/or security policies shall prohibit members of the Department, local law enforcement or other federal, state, local government officials, or persons authorized by the Department from entering any area of the Dispensary Location to perform their governmental duties.

Dispensary employees shall provide current copies of the Dispensary center floor plan to any local law enforcement that have jurisdiction in the area where the Dispensary Location is located.

## ***Annual Inventory Procedure***

A complete and accurate record of all Cannabis and manufactured Cannabis products on hand shall be prepared by the compliance manager annually on the anniversary of the initial inventory, or other date that the Dispensary Location Manager may choose, so long as it is not more than one year following the prior year's inventory.

All inventories, procedures and other documents required by the State shall be maintained on the premises and made available to the Department at all times.

---

## Security/Video Surveillance

---

### ***Role of the Security Department***

Maui Medical Marijuana Dispensary, LLC, takes security very seriously. Security employees are the first point of contact for patients, employees, visitors, and regulators when they visit the Dispensary Location. As such, a positive and professional security staff is essential in making each patient feel welcome and safe while visiting our Dispensary.

Patients should be welcomed by name when possible. Make eye contact while speaking politely and smile often. Be attentive, and listen when patients are speaking.

Our security department has two main functions that should be kept in mind at all times:

- All Security employees must remain aware of their surroundings at all times and take immediate preventative measures to reduce or remove the likelihood of injury to anyone at the facility.
- All Security employees should take steps to protect all company assets from theft, damage, or acts of violence while providing a safe physical environment for all staff, patients, and visitors.

### ***Service as a Function of Security***

Maui Medical Marijuana Dispensary, LLC, has a specialized service relationship with our patients. In addition to processing sales transactions in an efficient manner, we must also educate our patients while being sensitive to their individual needs. The following are some methods the security team should be utilizing to ensure this level of sensitivity and care:

- **Patients are more important than staff conversations.** When approached by a patient, all staff conversations should stop and the patients' needs should be attended to immediately.
- **Kindness, warmth, and focus.** Ensure that each and every patient is treated with kindness, warmth, and focused attention.
- **Respect.** Fellow security employees, staff members, and patients should all be treated with respect and compassion.
- **Work life and personal life should be kept separate.** A separation should be maintained between your personal and work lives so that you are calm and focused for patients.

## ***Threat Management***

This section will describe the process through which the Dispensary security staff will manage threats to the Dispensing Location. Threats or acts of violence against people or property will not be tolerated. The main objectives with regard to the safety and security of employees and property are to:

- Prevent violent incidents from occurring.
- Deal appropriately with each threat or violent act on a case-by-case basis.
- Minimize the risk of harm to employees, contractors, visitors, and others legally on the premise.
- Improve the comfort level of employees and patients.
- Communicate to employees and patients our commitment to their safety and security.
- Protect property and assets.
- Prevent the diversion of Cannabis, manufactured Cannabis, and currency.

In the case of actual violence;

- Take whatever action is necessary to contain the incident;
- Minimize personal risk to employees and others and;
- Have the threat taken into police custody.

No policy, procedure, or practice should interfere with decisions made to prevent a threat from being carried out, a violent act from occurring, or a life-threatening situation from developing. It is our intent to selectively hire, and train our security staff so that they are as well-equipped as possible to quickly assess, and deal with any threat to the Dispensary.

## ***Incident Response***

This section will describe the process through which the Dispensary security staff will manage incidents reported, witnessed, or suspected at the Dispensing Location. Once security personnel have been advised of an on-site threat or act of aggression:

- Investigate and verify that the threat or act of violence has, is, or will occur and assess the seriousness.
- Approach the threat maker if safety permits, and advise the individual of the policy concerning threats and that they must leave the premises immediately.
- If the threat maker refuses to leave or cannot be removed safely, notify local law enforcement (911) immediately.
- Contain the threat by sealing off the affected area.
- Evacuate the immediate area surrounding the threat. If a full facility evacuation is required, initiate the emergency evacuation plan.

- Remove the threat maker from the premises as quickly as safety permits. If the situation becomes protracted, security will support police negotiations as required.
- Document and forward an Incident Report to the Facility Manager and the Security Manager.

### ***Patient Confidentiality (Secure Storage)***

Maui Medical Marijuana Dispensary, LLC, will protect patients' privacy by utilizing a POS system with an encrypted, secure electronic patient database that is strictly controlled and continually backed up. The Health Insurance Portability Act of 1996 (HIPPA) places strict privacy requirements on health care providers with regard to patients' protected health information. Access to the patient database is carefully controlled by the dispensary manager. All staff members will receive in-house training on the privacy policy and procedures to ensure maintenance of patient confidentiality and proper handling of patient information data in compliance with HIPPA.

- Only authorized employees will have access to patient records based on specific authorization from the Dispensary manager. These authorized employees have received training on our privacy and record keeping policies and procedures.
- A patient record is created and maintained for each qualifying patient who enters our dispensary. All authorized employees are assigned a unique ID that is used as their electronic signature. All entries made to a patients' record are dated, signed by the employee making the entry, and include the employee's unique employee ID number. A record will be kept of all logins and records created or modified during that session.
- Patient documentation can always be scanned and attached to the patients' electronic database record. All paper documents that require retention will be stored in a locked cabinet in the Secure Storage area of the dispensary. Access to this area is limited to the facility manager and the patient coordinator.

### ***Video Surveillance***

The Video surveillance system utilized at the dispensary will comply with all Department requirements as stated in HRS §329D and HAR §11-850. Video resolution will be sufficient to make a clear and certain photo identification of anyone under observation. The Video surveillance system will have a secure backup. The entire facility will be under observation with the exception of restroom facilities. Any area with the potential to contain Cannabis or manufactured Cannabis products will be under surveillance. Any area where the packing or unpacking of secure containers carrying Cannabis or manufactured Cannabis products will occur, will be under video surveillance. All entrance and exits from the dispensary will be under video surveillance from interior and exterior views. Data collected from the cameras will be securely stored for a minimum

of one year, and made available to the Department upon request. The entire video surveillance system will be monitored at all times by a member of our security team, either on premise, or remotely. Our security team will use the surveillance equipment in place to assist in identifying any person or persons that have entered our facility for any reason as instructed by the Department or Local Law Enforcement.

---

# Patient Management Plan

---

## **Summary**

This Patient Management Plan contains procedures intended to guarantee compliance will all requirements as described in HAR11-850 and HRS 329D, as well as all other requirements set forth by any other governing body charged with the oversight of our Retail Dispensary Location.

## **New Patient Registration**

New patients will be greeted at the Security desk and asked to present a valid, government issued form of photo Identification, as well as their Registration Card issued by the Department. This information will be logged and time stamped. The new patient will be advised of the rules while in the Dispensary. The New patient will be asked to take a seat in the waiting area and advised that an employee will soon escort them through the process of purchasing Cannabis or manufactured Cannabis products. This process will include individual counselling and education required by the Department.

- **Dispensing Limit**

Pursuant to HAR §11-850-42, no more than four ounces of Cannabis or manufactured Cannabis products may be dispensed to a qualifying patient during a period of fifteen consecutive days, and shall not exceed eight ounces of Cannabis during a period of thirty consecutive days. This will be verified through BioTrack. If the BioTrack system is not operating or unavailable, the Dispensing Location will not dispense any Cannabis or Cannabis infused products until BioTrack becomes available. Additionally, when BioTrack is found to be nonoperational the Dispensing Location shall notify the Department immediately.

- **Patient Records**

The Dispensing Location Manager must ensure that all patient Identification and State registration documents are current and documented in the point of sale system. In addition, all activity concerning patients in the dispensary will be recorded including but not limited to:

- Arrival times and dates;
- Departures times and dates;
- Amount, strain, and tracking ID of purchased Cannabis or manufactured Cannabis products and;
- Educational materials covered.

- **Interpretative Services**

The Dispensing Location will make interpretative services available that are appropriate for the local population being served, including for the visually- and hearing-impaired. These services will be applied by any effective means that do not violate any privacy considerations.

---

## Patient Education

---

### **Required Materials and Information**

- Patients must be made aware that Cannabis has not been approved for use by the FDA. Patients must be made aware that there may be health risks associated with the use of Cannabis, and that it should be kept away from children.
- Patients must be informed that operating a motor vehicle or machinery while under the influence of Cannabis is strictly prohibited.
- Patients will be instructed on the potential varying effects and applications of each strain of Cannabis offered by the Dispensary.
- Information will be provided describing proper dosage and different delivery systems. Counseling will focus on using the smallest amount of medication possible to achieve the desired symptom relief.
- Patients will be presented with facts regarding substance abuse signs and symptoms, as well as contact information for substance abuse treatment programs and hotlines.
- Patients will be instructed that qualifying patients may not distribute Cannabis to any other individual, and that they must return any unused, contaminated, or excess product to the Retail Dispensing Location from which it was purchased for destruction.

### **Education Material Restrictions**

All educational materials created or presented to patients by Maui Medical Marijuana Dispensary, LLC will not include:

- Statements, graphics, pictures, or illustrations that promote the recreational use of Cannabis.
- Statements, graphics, pictures, or illustrations that promote the use of Cannabis for any other use other than treating an approved medical condition or related symptoms.
- Statements, graphics, pictures, or illustrations portraying or referring to the use of Cannabis by anyone under 18 years of age.

### **Documentation**

All Educational materials presented to a qualifying patient will require the patients signature and date that they received the materials as well as the signature and unique ID of the presenter. These records will be kept for six years and presented to the Department upon request.

---

## Loss and Diversion

---

**Per HRS 329D and HAR §11-850:** All cannabis in the process of production, distribution, transfer or analysis shall be stored in such a manner as to prevent diversion, theft or loss, and shall be returned to its secure location immediately after completion of the process or at the end of the scheduled business day. If a process cannot be completed at the end of a working day, the, vessels, bins or bulk containers containing cannabis shall be securely locked inside an adequately secured area. In order to ensure that cannabis is securely stored and avoid any threat of loss and diversion, the Dispensary Location shall:

- Not procure or maintain cannabis in excess of the quantity required for normal, efficient operation;
- Store all cannabis and cannabis-infused products in a safe, vault or secured room and in such a manner as to prevent diversion, theft or loss;
- Maintain all cannabis product in a secure area or location within the Dispensing Location accessible only to specifically authorized personnel, which shall include only the minimum number of employees essential for efficient operation;
- Keep all approved safes, vaults, or other equipment or areas used for the storage of cannabis securely locked or protected from entry, except for the actual time required to remove or replace cannabis;
- Keep all locks and security equipment in good working order;
- Not allow keys to be left in the locks and not store or place keys in a location accessible to persons other than specifically authorized personnel;
- Not allow other security measures, such as combination numbers, passwords or electronic or biometric security systems, to be accessible to persons other than specifically authorized personnel; and
- Keep the Dispensing Location securely locked and protected from unauthorized entry at all times.

Any additional safeguards required by the Department in regard to special security issues, such as extremely large stock of cannabis, exposed handling or unusual vulnerability to diversion, theft or loss, will be complied with immediately.

If a loss, theft or diversion of cannabis has occurred from the Dispensing Location, the Dispensary Manager shall notify the Department and the nearest Law Enforcement district immediately. The Department and local law enforcement shall determine the appropriate storage and security requirements for all cannabis in the Dispensing Location, and may require additional safeguards to ensure the security of the cannabis. If a reduction in the amount of medical cannabis in the Dispensing location's inventory is due to suspected criminal activity, the Dispensary manager shall immediately report the reduction to the Department and local law enforcement.

All areas of the Dispensing Location containing cannabis, including any rooms with approved safe or approved vaults, shall have a sign posted at all entryways, which shall be a minimum of 12 inches in height and 12 inches in length and shall state: "Do Not Enter – Limited Access Area – Access Limited to Authorized Personnel Only" in lettering no smaller than one inch in height.

No Dispensing Location and/or security policies shall prohibit members of the Department, local law enforcement or other federal, state, local government officials, or persons authorized by the Department from entering any area of the Dispensing Location to perform their governmental duties.

Dispensing Location Agents shall provide current copies of the Dispensing Location floor plan to local law enforcement that have jurisdiction in the area where the Dispensing Location is located.

---

## Product Transport

---

### ***Transport Summary***

The Transport of Cannabis between any of our facilities, whether a Cultivation Center or a Dispensing Location, as well as transport from one of our facilities to a laboratory for testing, will comply with 11-850-36, HAR.

### ***Authorized Transport Employee Training***

Designated transport staff will receive training specific to the task and will comply with HAR §11-850-36. No less than two trained employees will escort all secured containers. All transportation staff will be instructed on all aspects of Cannabis transportation as described by the Department including, but not limited to:

- **Manifest Requirements**

No transport of Cannabis or manufactured Cannabis will occur without a manifest generated by BioTrack which will include all elements required by the Department.

Maui Medical Marijuana Dispensary, LLC, will transport Cannabis and manufactured Cannabis products in secure containers with a manifest packed inside the container as well as a manifest, clearly visible and reasonably protected from damage and alteration, on the exterior of the sealed container.

- **Secure Containers**



Cannabis and manufactured Cannabis products shall be transported under conditions that maintain their quality and safety.

Upon receipt of Cannabis or manufactured Cannabis products from any of our Facilities, any discrepancies between what is received and what is on the manifest shall be immediately reported to the Department.

█ [REDACTED]

[REDACTED]

[REDACTED]

The Dispensary will not, under any circumstances, transport Cannabis or manufactured Cannabis products to, from, or within and federal fort or arsenal, nation park or forest, any other federal enclave, or any other property possessed or occupied by the federal government. HRS 321-9, 329D-27.

---

## Sales and Distribution

---

### **Summary**

Maui Medical Marijuana Dispensary, LLC, will ensure that no unlawful sales transactions are permitted or tolerated in accordance with the Departments requirements. It our mission to provide our Patients with the highest quality medicine in a safe, friendly, and professional environment. Where possible, our processes, procedures, and flow of traffic through the building will be engineered in such a way as to reduce or prevent violations of the Departments requirements.

### **Hours of Operation**

The Retail Dispensing Location will be open from 8:00 a.m. until 8:00 p.m., Monday through Saturday. The Location will be closed on Sundays, as well as official state and federal holidays.

### **Identification Requirements**

Upon entry to the Retail Dispensing Location, all patients and caregivers must present to the Security Agent, a medical use of marijuana registration card issued by the department and a valid government issued form of photo identification. The registration card will be verified in the Department data base to ensure that no unregistered individual is permitted to enter the Dispensary. Forms of identification accepted:

- A Valid State issued driver's license;
- A Government Issued Identification card;
- A Military Identification card;
- A valid Passport.

### **Point of Sale System (POS)**

The Point of Sale System used in the Dispensary will comply with the Departments requirements and will provide redundant Inventory controls. The POS will also not allow the unlawful sale of Cannabis over the established purchase limits.

### **Lawful Transactions**

The dispensary manager will be responsible for all sales transactions taking place inside the Dispensary Locations. The dispensary manager must ensure that all dispensary agents working in the dispensary facility are properly trained on all operating procedures. Maui Medical Marijuana Dispensary, LLC, will ensure that no unlawful sales transactions are permitted or tolerated in accordance with state laws and regulations. Where possible, engineered controls will be established to ensure that it is

impossible to dispense Cannabis to non-registered patients or caregivers by utilizing the Point of Sale System in conjunction with BioTrack record keeping.

### ***Display of Product***

The Dispensary will display no more than one sample of each product offered for sale. These products will be displayed in locked cases, behind the counter, and will be inaccessible to patients.

### ***Refusal of Sale***

- **Risk to Patient or the Public**

Employees of the Dispensary may refuse to dispense to a patient or personal caregiver if, in the opinion of the employee, the patient or the public could be placed at risk. In any instance of denial, the Dispensary will notify the Department immediately and register the refusal in BioTrack.

- **Suspected Diversion**

Employees must refuse to sell Cannabis to a patient or caregiver they suspect may be diverting product, and notify the dispensary manager immediately. In any instance of denial, the Dispensary will notify the Department immediately and register the refusal in BioTrack.

### ***Cash Management***

- **Internal Controls**

The General manager shall ensure that a system of controls is maintained for cash handling and accounting functions. Tight controls must remove opportunities for unauthorized access to cash.

- Dual Custody is required any time cash is transferred from the registers to the safe and from the facility to the bank.
- Any petty cash will be under the control of the Dispensary Manager and reconciled daily. The petty cash account should not exceed \$1000. All receipts and vouchers will be accounted for and the drawer should be in balance at all times.
- ATM and debit card transactions must be reconciled weekly.

- Two employees are required to open any cash safe or vault. Combinations should be segmented so that two employees are required to access stored cash.

- **Cash Security Procedures**

The following cash security procedures must be followed in order to ensure proper accounting practices as directed by the Dispensary Manager.

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

- **Dispensing to Patients**

Once qualifying patients have been presented with all of the required educational materials and have signed that they have read and understand the materials, they will be assisted in making their selection of specific strain, form, and delivery method. The following steps will be used to complete the transaction.

- The Qualifying patient will select which products and amounts to purchase. The patient will not be allowed to purchase more than the amount specified by the Department.
- The Dispensary Agent assisting the patient will enter the data into the POS system and request payment.
- Once all moneys have been collected, the Dispensary Agent will bag the purchased products in an opaque bag and hand it over to the patient.
- The patient will be asked to proceed to the security station in order to check out.
- The security Agent will record the time and date of the patient's departure.

---

## Logs & Record Keeping

---

### ***Cultivation Center Records***

Each Dispensary shall keep and maintain upon the permitted premises for a six-year period true, complete, legible and current books and records, including: the following:

- The date of each transfer of Cannabis or manufactured Cannabis products from a Cultivation Center;
- The name, address and registration number of the Cultivation center;
- The item number, product name (description), and quantity of Cannabis or manufactured Cannabis products registered by the Department and transferred from a Cultivation center;

Each Dispensing Location is responsible for keeping and maintaining records that clearly reflect all financial transactions and the financial condition of the business. The following records must be kept and maintained on the permitted premises for a six-year period and must be made available for inspection if requested by the Department, and, when applicable, the Hawaii Department of Taxation:

- Purchase invoices, bills of lading, manifests, sales records, copies of bills of sale and any supporting documents, including the items and/or services purchased, from whom the items were purchased, and the date of purchase;
- If applicable, bank statements and canceled checks for all accounts relating to the Dispensary center;
- Accounting and tax records related to the Dispensary center and each producer backer;
- Records of all financial transactions related to the Dispensary center, including contracts and/or agreements for services performed or received that relate to the Dispensary center;
- All employee records, including training, education, discipline, etc.;
- Transportation records;
- Inventory records;
- Records of any theft, loss, or other unaccountability of any Cannabis or manufactured Cannabis products, or other items containing Cannabis.

### ***Tracking/Logging Workflow and Pertinent Data***

All workflow will be tracked and recorded for daily review by the Dispensary facility manager. The following logs will be utilized by designated cultivation facility employees to track workflow through the Dispensary facility. In addition to logging, all information shall be entered into BioTrack.

## ***Information Recording Logs***

The Retail Dispensing Location compliance manager shall ensure that all logs are utilized and maintained to track all facility workflow.

- **Visitor Log**

The company compliance manager is responsible for ensuring any authorized personnel visiting the Dispensary facility use a visitor log. The visitor log will be located inside the main secured entrance to the Dispensary facility.

- **Cleaning Log**

The Retail Dispensing Location manager is responsible for overseeing the use of a daily cleaning log to track cleaning within all zones of the facility.

- **Maintenance Log**

A facility maintenance log will be utilized to track maintenance and upkeep on all equipment within the facility.

## ***Sales Records***

All sales must be recorded accurately and completely and entered in the POS system. The Dispensary Manager will ensure that, should the POS system fail or become unavailable for any reason, all sales should be halted and the Department notified of the problem. The Department should again be notified when the POS system becomes available before sales can resume.

- Required fields to be tracked in the POS system:
  - The Registration I.D. number of the patient.
  - The date and time of each sale to a qualified patient or caregiver.
  - The retail price of purchased products.
  - The barcode of each purchased product.
  - Tax collected for each item.

---

## Seed to Sale Tracking

---

All Cannabis tracking shall begin when a seed or part of the parent plant is removed and a propagating plant or clone is created. At this point, a unique plant identification number shall be assigned, labeled, and recorded by the vegetative zone manager which then will be used to track the history and data through propagation, vegetation, flower, harvest, processing, cure and final packaged inventory.

Each plant shall be tracked by its physical grid location in the premises at all times. All significant dates and observations will be recorded as key data points in the BioTrack for referencing needs throughout the plant's life cycle. This information can be used to recall any contaminated medium, nutrient, or issue that may occur during the stages listed above and allows for easy removal from production or inventory of any product that does not meet the requirements of the state.

An inventory of Cannabis in the cultivation stage shall be conducted each week. During the cultivation process, physical location will be broken up into a grid system and each square will have a designated number of plants per grid area.

Auditing the inventory of all plants shall be effectively and efficiently accomplished with spot checks done daily to mitigate any diversion during cultivation, processing and/or packaging, as well as detecting any human error that may have occurred while entering information during the plant's life cycle.

After the flowering cycle has been completed and the plant is harvested, inventory shall be transitioned from the flowering zone to the processing department, and prepared for trimming. During this transfer, all product will be scanned, tracked and logged. At this point, a pre-trimming weight will be determined and logged.

After being weighed and logged, all flowers will be cleaned, trimmed, and prepared for drying in the secured vault. Each batch is transferred through each state with the entirety of the batch. All green waste from the trimming process shall be weighed, logged and disposed of according to our policy for managing waste from cannabis plants (see transportation protocol).

After drying and curing, each batch shall be tested for efficacy. Once a batch has passed all regulated testing protocol and our standards set forth by business management, it shall be released for packaging and labeling. Before being transferred to packaging, the entire batch will be weighed again, scanned and logged into BioTrack.

As each package is wrapped and processed, each individual package will be weighed again and reconciled against the total batch weight. Once packaged, all product shall be scanned and logged into the second vault designated for all approved and packaged products and stored until transfer.

Immediately before being transferred to a retail location, all product will be scanned again and logged into BioTrack. Once arriving at the retail location, all product will be inventoried and received by the store processing management team, and the information will be logged into BioTrack and POS system inventory.

When a Qualifying patient purchases products, the transaction will be recorded by our POS system as well as BioTrack.

This entire process from seed to sale will be recorded on high definition cameras, and all recordings will be stored for six years.

**Question 2 Addenda**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Community Outreach Plan**

---

Maui Medical Marijuana Dispensary, LLC (MMMD) will develop and execute a comprehensive community outreach plan to serve the County of Maui as a valuable and productive community partner.

MMMD is committed to developing initiatives in compliance with Act 241 that educate the public regarding the science of cannabis; maintain quality and meaningful relationships with local government, neighboring businesses and local residents; and provide contributions that enrich and support the Maui community, including but not limited to monetary and volunteer contributions to local schools, nonprofits, and other entities.

MMMD's outreach efforts will focus on education, positioning the Company as an ethical provider of medical cannabis in Hawai'i. These efforts will be supported by the Company's objective to provide the best care to qualifying patients, and the Company's relationships with local health professionals and other key stakeholders. MMMD will also benefit from the community outreach expertise Revolution Cannabis, MMMD's managed services consultant, has developed operating in the highly-regulated medical cannabis market in Illinois.

MMMD's leadership team has a well-earned reputation for generosity, and has made an incredible impact in Maui's nonprofit spheres. Some examples of MMMD's existing relationships with local nonprofits and health organizations include but are not limited to the Maui Food Bank, Maui Arts & Cultural Center, Maui YMCA, Hawai'i Preparatory Academy on the Big Island, Maui Preparatory Academy in Lahaina, Maui Big Brothers Big Sisters, Landscape Industry Council of Hawaii, and Maui Memorial Medical Center.

MMMD will work with the community to educate its residents on the overall laws and regulations of medical cannabis in Maui as well as the history and medicinal properties of medical cannabis as they apply to qualifying conditions pursuant to Act 241. MMMD will mindfully stay within the regulatory advertising parameters pursuant to HAR §11-850-93 and provide education through non-advertising means by promoting the history and medical properties of cannabis and not the company or its products.

MMMD believes it is important that the community is educated on the laws and regulations of medical cannabis as they apply to the licensed medical marijuana dispensary and the patient population at large.

MMMD recognizes the crucial role that culture plays in the effectiveness of outreach programs. As noted by the State of Hawaii and Department of Health, Adult Mental Health Division in a 2007 presentation titled "What's culture got to do with it?," "Hawaiian health is about Hawaiian culture."

Upon receiving a medical marijuana dispensary license, MMMD will work with local schools and organizations such as the Maui School Garden Network to create learning gardens and/or provide financial support for the maintenance of existing gardens with the purpose of providing

## **Question 2 Addenda**

### **Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

Maui's students with a hands-on opportunity to learn about agriculture and horticulture, and health and nutrition. "School gardens, nutrition education, and farm to school initiatives are orienting palates and diets towards traditionally available foods, diversifying agriculture and increasing locally produced school snacks and lunches while circulating income throughout local farming communities in the Hawaiian Islands," according to reviving Local Food Systems in Hawai'i case study by the Biodiversity for Food and Nutrition Project.

MMMD will evaluate all of its contributions to the community on an annual basis and will consider requests from organizations that work to enhance the overall community's quality of life.

**Question 3 Merit Criteria Response**

MMMD is formed and managed by a group of successful Hawaiian entrepreneurs and professionals whose substantial aggregate net worth and access to financial resources assures the future financial stability of the business. MMMD has performed deep due diligence and research on the medicinal cannabis industry, which has informed its financial modeling framework and strategy to ensure that the business will be properly funded and operated in a financially prudent and stable manner.

(A) Pursuant to HAR §11-850-15-6, on October 2<sup>nd</sup>, 2015, more than 90 days prior to the opening of the licensing application process, MMMD opened a checking account at the Central Pacific Bank of Hawaii and deposited [REDACTED]

[REDACTED] This capital has been deposited by MMMD managing members Shep Gordon [REDACTED] and Ken Ota [REDACTED]

and have remained in the account continuously since the date of deposit. These funds are immediately available for MMMD to begin operating a licensed medical cannabis dispensary. See Addendum 3-1 for the official letter from the Central Pacific Bank verifying the date of deposit, account activity, availability of funds and its sources.

As shown below, Table 1 provides a summary of net worth figures of all managing members of the company. MMMD has provided official letters from CPAs serving each individual managing member of the MMMD that support these net worth figures (See Addendum 3-2).

These statements clearly demonstrate the strong financial position of each of the members further supporting and enhancing MMMD's ability to adequately capitalize the business as well as create and execute a sound financial strategy for operating a dispensary.

**Question 3 Merit Criteria Response**

*Table 1. Summary of Managing Members Net Worth*

	Net Worth
Shep Gordon	██████████
Ken Ota	██████████
Anthony Takitani	██████████
Howard Takishita	██████████
TOTAL	██████████

Additionally, MMMD has obtained a letter of intent from a state-chartered bank to secure ██████████ of debt financing in the form of a fixed-interest loan, providing the company with immediate access to operating and investment capital upon award of the license. The ability of MMMD to secure such debt financing speaks highly of MMMD’s proven commercially successful track record and its ability to execute on the business plan (See Addendum 3-3.) Therefore, upon award of the application, MMMD will have immediate access to \$9,200,000.

**(B)** Summaries of financial statements in businesses previously or currently owned or operated by the applicant are provided in Addendum 3-4. As evidenced by the statements, MMMD members own and operate various businesses with substantial net assets and income. All of the businesses are in good standing, and none of the businesses have any back taxes, liens, judgements or bankruptcies presently and previously.

**(C)** MMMD's objective is to build and operate a long-term financially viable medical cannabis production, manufacturing, and retail dispensary platform in Hawaii. To that end, MMMD has created a comprehensive financial strategy consisting of two parts:

1. *Financial planning and forecasting* of MMMD's income, including, but not limited to:
  - a. expectations of patient demand, MMMD’s market share, expected product pricing and related revenue projections. (*Revenue Forecast*)

### Question 3 Merit Criteria Response

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

b. determination of timing and magnitude of capital expenditures (CAPEX) necessary to implement the real estate strategy (property acquisition, build out, etc.) as well as overall operating strategy of the business. (*Expense Forecast*)

2. Capital formation strategy designed to ensure that all capital and operating expenses of MMMD are properly funded and its capital structure is optimized.

A detailed forward-looking financial model (proforma) is presented in Addendum 3-5.

#### ***Revenue Forecast***

*Patient Demand.* As a base case, MMMD assumed that the adoption rate will initially amount to 1% of total Maui population of 163,000 people (as of Q4 2015). Based upon conservative estimates, MMMD estimates the patient population in Maui will be 2,445 at the end of the fourth quarter of 2017, increasing at a rate of 1.5% until Hawaii begins to allow for visitors to the island with a medical cannabis card from another state to purchase medical cannabis at the first quarter of 2018. At the end of the fourth quarter of 2018, MMMD anticipates the island will have 4,614 qualifying patients, and the patient population will continue to grow at a rate of 2% through the fourth quarter of 2019. As a holder of one of the two medical cannabis licenses in Maui County, MMMD assumed 50% of total market share. MMMD has studied other regulated medical cannabis markets to determine the expected patient population (including historical trends in other states), expected patient consumption patterns, product price dynamics and other relevant factors to determine an appropriate revenue forecast.

#### ***Expense Forecasting***

*CAPEX.* As specified in the business plan, MMMD is planning to develop two state-of-the-art, 3,000 plant capacity production centers and two retail dispensary locations.

**Question 3 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

One of the key elements of MMMD's business strategy is to create best-in-class, pharmaceutical-grade medical cannabis production and manufacturing facilities, scalable to meet increasing patient demand. To that end, MMMD plans to utilize a 44,000 square foot building, currently owned and operated by [REDACTED], as the location of the production and manufacturing facilities. The available capital and existing infrastructure of the main production center allows MMMD to proceed with construction in a timely manner and deliver the high quality cannabis-derived medicine to meet patient demand.

Upon award of a license, meeting the requirements of HAR §11-850-32, and satisfying the Department of Health inspection, MMMD will commence cultivation operations within a pre-existing prefabricated building, which is attached to the main (first) production center on the proposed premises. This initial production space will be utilized for operations while improvements are being made to the main production center in order to provide cannabis medicine to qualified patients in a timely manner. The attached prefabricated building is secure, enclosed, compliant with Department regulations per HAR §11-850-32, and will be ready for approval to produce and manufacture medical cannabis by May 15th, 2016. This will provide for an initial harvest and distribution of approximately 20 pounds of safe and consistent cannabis medicine as early as August 29, 2016. MMMD has negotiated contracts for two retail dispensary properties [REDACTED] to build safe and compliant medical cannabis retail dispensary stores.

For detailed projections related to CAPEX, see Addendum 3-5.

*OPEX.* According to the financial plan, the majority of operating expenses (both at the corporate level and for cost of goods sold) is driven by the payroll. As specified in the business plan, MMMD is planning to adopt a gradual ramp up strategy in terms of staffing of both

**Question 3 Merit Criteria Response**

production and retail dispensary facilities to ensure adequate coverage of both production and retail operations, including security personnel. The human resources and staffing strategy will be consistent with patient demand dynamics and on-going development of the facilities. At the corporate level, MMMD is planning a similar gradual increase in payroll expenses, as none of the managing members and senior operating professionals will receive full salaries until the company starts generating revenue, which is expected in Q4 2016. Furthermore, MMMD’s financial plan has conservatively allowed for additional operating expenses such as legal, consulting, travel and others.

***Capital Formation***

As detailed in 3 (A), operating capital of [REDACTED] MMMD managing members’ ample aggregate net worth [REDACTED] and access to the [REDACTED] real estate loan provide ample capital to support the operating strategy of the business and related budget. Additionally, MMMD members are able utilize their vast personal network of high net worth individuals, family offices and other qualified investors, as well as various qualified intermediaries and legal advisors to supplement the already plentiful financial resources with external capital as needed.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

---

## Table of Contents

---

<b>3.1 – Central Pacific Bank Deposit.....</b>	<b>2</b>
<b>3.2 – Personal Financial Statement Letters .....</b>	<b>7</b>
Shep Gordon .....	7
Ken Ota .....	8
Anthony Takitani .....	9
Howard Takishita .....	10
<b>3.3 – Bank Letter of Intent .....</b>	<b>11</b>
<b>3.4 – Credit History.....</b>	<b>13</b>
Shep Gordon Businesses Summary .....	13
Ken Ota Businesses Summary .....	14
Anthony Takitani Businesses Summary .....	15
Howard Takishita Businesses Summary .....	16
Shep Gordon, EZRA Music Credit Report .....	17
Shep Gordon, Alive Enterprises Credit Report .....	18
Ken Ota, Pacific Pipe Company Credit Report .....	19
Anthony Takitani, Takitani, Agaran & Jorgensen LLLC Credit Report .....	20
Anthony P. Takitani Credit Report .....	21
Anthony Takitani, ATAK Business Investments Credit Report .....	22
Howard Takishita, Howard's Nurseries Credit Report .....	23
<b>3.5 – Pro Forma .....</b>	<b>24</b>













































**Addendum 3-5**

<b>PROFORMA</b>	<b>Q1 2016</b>	<b>Q2 2016</b>	<b>Q3 2016</b>	<b>Q4 2016</b>	<b>Q1 2017</b>	<b>Q2 2017</b>	<b>Q3 2017</b>	<b>Q4 2017</b>	<b>2018</b>	<b>2019</b>
<b>REVENUE</b>	-	-	-	1,438,394	1,438,394	1,797,992	1,797,992	2,157,590	14,776,098	18,038,456
<b>Dispensing (Vertically-Integrated MFG &amp; Retail)</b>	-	-	-	1,438,394	1,438,394	1,797,992	1,797,992	2,157,590	14,776,098	18,038,456
Derivative Products (Oil)	-	-	-	246,456	246,456	308,070	308,070	369,684	2,531,754	3,090,730
Flower	-	-	-	1,191,938	1,191,938	1,489,922	1,489,922	1,787,906	12,244,345	14,947,726
<b>EXPENSES</b>	<b>172,000</b>	<b>6,318,430</b>	<b>6,354,472</b>	<b>1,533,606</b>	<b>1,411,243</b>	<b>1,332,968</b>	<b>1,403,505</b>	<b>1,804,132</b>	<b>8,152,056</b>	<b>8,775,733</b>
<b>Start up Costs (Total)</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>35,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Application Fees (Included in Above)	5,000	5,000	5,000	5,000	-	-	-	-	-	-
Legal Fees (Included in Above)	15,000	15,000	15,000	15,000	-	-	-	-	-	-
Travel Expenses (Included in Above)	10,000	10,000	10,000	10,000	-	-	-	-	-	-
Due Diligence (Included in Above)	5,000	5,000	5,000	5,000	-	-	-	-	-	-
<b>CAPEX (Real Estate &amp; Development)</b>	<b>60,000</b>	<b>5,684,000</b>	<b>5,645,000</b>	<b>350,000</b>	<b>150,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Real Estate - Purchase / Acquisition (Total)	\$ 10,000.00	989,000	-	-	-	-	-	-	-	-
Construction - Cultivation / Processing	-	3,520,000	3,520,000	-	-	-	-	-	-	-
Construction - Retail Dispensaries	-	500,000	500,000	-	-	-	-	-	-	-
Laboratory Equipment	-	-	1,200,000	-	-	-	-	-	-	-
Interior Fixtures	-	250,000	250,000	200,000	-	-	-	-	-	-
Utilities - Offsite	-	250,000	-	-	-	-	-	-	-	-
Misc./Contingency	50,000	175,000	175,000	150,000	150,000	-	-	-	-	-
<b>Cost of Goods Sold</b>	<b>-</b>	<b>258,930</b>	<b>431,122</b>	<b>905,256</b>	<b>990,293</b>	<b>1,061,843</b>	<b>1,132,380</b>	<b>1,533,007</b>	<b>7,067,556</b>	<b>7,691,233</b>
<b>- Cultivation &amp; Processing</b>	<b>-</b>	<b>258,930</b>	<b>431,122</b>	<b>665,256</b>	<b>750,293</b>	<b>821,843</b>	<b>892,380</b>	<b>1,293,007</b>	<b>6,107,556</b>	<b>6,731,233</b>
Crop Inputs	-	-	45,987	45,987	57,484	57,484	68,981	106,046	509,764	578,269
Payroll (Production, Retail, Security)	-	258,930	258,930	383,110	397,610	469,160	469,160	642,380	2,979,980	3,183,360
Utilities	-	-	121,019	121,019	151,273	151,273	181,528	279,068	1,341,485	1,521,759
Packaging and Labeling	-	-	-	37,343	46,679	46,679	56,014	86,112	413,944	469,571
Secured transportation	-	-	-	-	-	-	-	-	-	-
Product Formulation	-	-	-	69,154	86,442	86,442	103,730	159,467	766,563	869,577
Cultivation Waste	-	-	1,037	1,037	1,297	1,297	1,556	2,392	11,498	13,044
Processing Waste	-	-	-	3,458	4,322	4,322	5,187	7,973	38,328	43,479
Processing Inputs	-	-	4,149	4,149	5,187	5,187	6,224	9,568	45,994	52,175
<b>- Dispensary (Flower &amp; Derivative)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>240,000</b>	<b>240,000</b>	<b>240,000</b>	<b>240,000</b>	<b>240,000</b>	<b>960,000</b>	<b>960,000</b>
Derivative	-	-	-	-	-	-	-	-	-	-
Flower	-	-	-	-	-	-	-	-	-	-
<b>Operating Expenses</b>	<b>77,000</b>	<b>340,500</b>	<b>243,350</b>	<b>243,350</b>	<b>270,950</b>	<b>271,125</b>	<b>271,125</b>	<b>271,125</b>	<b>1,084,500</b>	<b>1,084,500</b>
Lobbyist	-	-	5,000	5,000	5,000	5,000	5,000	5,000	20,000	20,000
Corporate Payroll Expenses	-	128,500	128,500	128,500	144,500	153,750	153,750	153,750	615,000	615,000
Staffing/HR/Insurance	-	-	12,850	12,850	14,450	15,375	15,375	15,375	61,500	61,500
Dispensary Lease (Pa'ia)	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	108,000	108,000
Travel	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	120,000	120,000
Consulting Fees	15,000	150,000	15,000	15,000	15,000	15,000	15,000	15,000	60,000	60,000
Legal Fees	5,000	5,000	10,000	10,000	20,000	10,000	10,000	10,000	40,000	40,000
Office Expense	-	-	5,000	5,000	5,000	5,000	5,000	5,000	20,000	20,000
Other Operating Expenses	-	-	10,000	10,000	10,000	10,000	10,000	10,000	40,000	40,000
<b>NET INCOME</b>	<b>(172,000)</b>	<b>(6,318,430)</b>	<b>(6,354,472)</b>	<b>(95,213)</b>	<b>27,150</b>	<b>465,024</b>	<b>394,487</b>	<b>353,459</b>	<b>6,624,043</b>	<b>9,262,723</b>

**Addendum 3-5**

<b>REVENUE</b>													
<b>QUARTER</b>	<b>Q4 2016</b>	<b>Q1 2017</b>	<b>Q2 2017</b>	<b>Q3 2017</b>	<b>Q4 2017</b>	<b>Q1 2018</b>	<b>Q2 2018</b>	<b>Q3 2018</b>	<b>Q4 2018</b>	<b>Q1 2019</b>	<b>Q2 2019</b>	<b>Q3 2019</b>	<b>Q4 2019</b>
Annual Maui Visitors	2,000,000	2,020,000	2,040,200	2,060,602	2,081,208	2,102,020	2,123,040	2,144,271	2,165,713	2,187,371	2,209,244	2,231,337	2,253,650
Reciprocity Medical Card Holders Rate (Start Q1 2018)						0.75%	0.75%	0.75%	0.75%	1.00%	1.00%	1.00%	1.00%
<b>Total Monthly Visitation Patient Population</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,314</b>	<b>1,327</b>	<b>1,340</b>	<b>1,354</b>	<b>1,823</b>	<b>1,841</b>	<b>1,859</b>	<b>1,878</b>
Local Maui Population	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000
Local Maui Adoption Rate	1%	1%	1.25%	1.25%	1.50%	1.50%	1.75%	1.75%	2.00%	2.00%	2.00%	2.00%	2.00%
<b>Total Local Patient Population</b>	<b>1,630</b>	<b>1,630</b>	<b>2,038</b>	<b>2,038</b>	<b>2,445</b>	<b>2,445</b>	<b>2,853</b>	<b>2,853</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>
<b>Combined Monthly Visitation &amp; Local Patient Pop.</b>	<b>1,630</b>	<b>1,630</b>	<b>2,038</b>	<b>2,038</b>	<b>2,445</b>	<b>3,759</b>	<b>4,179</b>	<b>4,193</b>	<b>4,614</b>	<b>5,083</b>	<b>5,101</b>	<b>5,119</b>	<b>5,138</b>
<b>Company</b> Maui Market Share	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
# of <b>Company</b> Patients	815	815	1,019	1,019	1,223	1,879	2,090	2,096	2,307	2,541	2,551	2,560	2,569
Monthly Consumption Per Patient (LBS)	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375
Monthly Patient Demand (LBS)	76	76	96	96	115	176	196	197	216	238	239	240	241
Retail Price Per Pound (LBS)	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200
Quarterly Flower Revenue	\$ 1,191,938	\$ 1,191,938	\$ 1,489,922	\$ 1,489,922	\$ 1,787,906	\$ 2,748,595	\$ 3,056,186	\$ 3,065,889	\$ 3,373,674	\$ 3,716,804	\$ 3,730,133	\$ 3,743,596	\$ 3,757,193
Quarterly Derivative Product (Oil) Revenue	\$ 246,456	\$ 246,456	\$ 308,070	\$ 308,070	\$ 369,684	\$ 568,325	\$ 631,925	\$ 633,932	\$ 697,572	\$ 768,521	\$ 771,277	\$ 774,060	\$ 776,872
<b>Quarterly Revenue</b>	<b>\$ 1,438,394</b>	<b>\$ 1,438,394</b>	<b>\$ 1,797,992</b>	<b>\$ 1,797,992</b>	<b>\$ 2,157,590</b>	<b>\$ 3,316,920</b>	<b>\$ 3,688,112</b>	<b>\$ 3,699,821</b>	<b>\$ 4,071,246</b>	<b>\$ 4,485,325</b>	<b>\$ 4,501,410</b>	<b>\$ 4,517,656</b>	<b>\$ 4,534,065</b>

**Question 4 Merit Criteria Response**

Maui Medical Marijuana Dispensary, LLC (MMMD) has established a comprehensive Security Plan demonstrating its ability to comply with HRS §329D-7. It is MMMD’s goal to prevent theft and diversion, while maintaining patient, public, and product safety. MMMD will utilize the services of Revolution Managed Services (RMS) to assist with the design and implementation of security systems and operating procedures for the dispensary operation.

MMMD selected RMS for its proven ability to maintain effective security systems and procedures in the highly regulated Illinois medical cannabis market. RMS-managed facilities contain over [REDACTED]

[REDACTED] All areas in which medical cannabis or manufactured products are fully covered under video surveillance. Furthermore, RMS facilities are equipped with advanced access control features restricting access onto the premises, into the facility and between compartments, intrusion alarm systems, adequate perimeter and site lighting, and a secure storage vault adhering to DEA requirements.

MMMD’s Security Plan utilizes security benchmarks and standards that are expertly applied and adapted to HRS §329D and HAR §11-850, as they relate to physical security and control measures to prevent diversion, abuse, and other illegal or unauthorized conduct relating to medical cannabis. This plan will ensure compliance, and exceed the requirements found in HAR §11-850-4 and HRS 329D-7 paragraph (6) (See Addenda: Security Plan).

MMMD Production Centers & Retail Dispensing Locations will employ a professionally-installed video surveillance system, allowing for 24-hour continuous video monitoring and recording of all production centers and retail dispensary locations. These systems will be equipped with [REDACTED]

[REDACTED]

**Question 4 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

[REDACTED]

[REDACTED]

All recorded images will clearly and accurately display the time and date. The surveillance system storage devices and cameras will utilize internet protocol (IP), providing MMMD the capability to provide the Department, or Law Enforcement, with real-time or archived video footage upon request. Cameras have been carefully selected for the environment where they are to be located, as well as the activities they will be capturing. The camera resolution shall allow for the clear and certain identification of any person and activities in any area where cannabis products are produced, moved, or stored; all points of sale areas; any room used to transport cannabis or manufactured cannabis products; any room or area storing a surveillance system storage device; and all exits and entrances to a dispensary or production center facility from both indoor and outdoor locations. The video server will be locked in a secure server rack, protecting it from unauthorized agents and the surrounding operations.

MMMD’s premises will be equipped with professionally installed alarm systems to detect unauthorized entry and notify law enforcement in an emergency situation. MMMD will utilize [REDACTED]

[REDACTED] All exterior doors, rooms containing an exterior wall, and rooms with exterior windows will be incorporated into the alarm system using devices such as contacts, glass break sensors, and motion detectors. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**Question 4 Merit Criteria Response**

An engineered access control system will utilize [REDACTED]. This will allow MMMD to regulate and monitor movement between compartments, mitigating theft and diversion. The doors to restricted areas will be programmed to require authentication, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

All devices will be hardwired to network devices and attached to the IT infrastructure through switches. This enables the access control system the ability to generate reports and send important notifications or alarm signals by email, SMS, lights, sirens, or recorded messages through speakers. The intended system provides for a mobile application to trigger a lockdown from any authorized mobile device utilizing the application. Mustering reports are also generated in the event of an evacuation during emergency operations, and they can be controlled through any browser with an internet connection.

A locked entry point to screen individuals for authorized entry to the centers will be utilized at retail and production center locations. The locked entry point will contain a sign-in system to record the names of persons entering, date and time of entry and exit, purpose for entry, and identity of escort if applicable. The system will store the entry point records for a

**Question 4 Merit Criteria Response**

period of 6 years. MMMD’s production centers and retail dispensaries will allow only the following persons to enter the premises:

(a) Persons included on a current department-approved list provided to the department by the licensee of those persons who are allowed into that retail dispensary’s or production center’s facilities for a specific purpose for that facility in accordance with sections 329-15 and 329-16, HRS; and

(b) Other approved individuals with government issued photo identification including: qualifying patients; primary caregivers; a government employee or official acting in the person’s official capacity; retail dispensary or production center employees provided that qualifying patients and primary caregivers may only be authorized to enter retail dispensing locations.

All finished, packaged medical cannabis products within the production centers and retail dispensaries will be stored in a secured locked room, vault, or locked container securely affixed to a wall or floor, as described in the Security Plan. MMMD will implement any other reasonable security measures to deter and prevent diversion as deemed necessary by the Department.

In addition to the security systems, MMMD will employ several trained and qualified security officers at the production centers and retail dispensaries to prevent diversion. Security guards will be registered and trained as required by HAR §16-97, HRS §463, and HRS §436B. MMMD’s Security Manager will create post duties and additional standard operating procedures for the security department as a Security Management Plan. Guards will undergo continuous training and evaluation in accordance with MMMD’s commitment to the community and the medical cannabis patients, striving to set the standard for medical cannabis security (See Addenda: Standard Operating Procedures.) Production Centers: Security measures that are unique to MMMD’s production center location include secure chain-link fencing, containing

**Question 4 Merit Criteria Response**

privacy screening and barbed wire outriggers at the top surrounding the operational area perimeter, which will reasonably deter intruders and prevent anyone outside the premises from viewing any cannabis in any form. MMMD will implement any other reasonable security measures to deter and prevent intruders as deemed necessary by the Department. (See Addenda: Facility Layouts, Production Center Lighting and Fencing, Security Command Center.)

Retail Dispensaries: Security measures that are unique to MMMD’s retail dispensary locations include utilizing a protocol pursuant to Chapter 329 §, HRS for admitting qualifying patients, or primary caregivers, with valid government-issued identification and medical cannabis registration cards prior to allowing them access to the secured room for sales. Additional security measures at MMMD’s retail locations include a separate secured room for sales, which shall include secured and locked display cases for cannabis and manufactured cannabis products; a maximum occupancy limit ratio in the secured sales room of two customers to every one retail dispensing location employee; and exterior lighting that illuminates all entries and exits to allow for the clear and certain identification of any person and activities [REDACTED]

Transportation: Transportation of medical cannabis will be only between MMMD locations or testing laboratories. Product will be packed and unpacked within secure shipping containers under view of the video surveillance system and according to a manifest. Transportation will be performed by two trained and authorized dispensary agents, within a secured transport vehicle, utilizing random predetermined routes. All transportation of medical cannabis will be in accordance with HAR §11-850-36 and as detailed in the Security Plan (See Addenda: Security Plan).

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

**Question 4 Addenda**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Table of Contents**

---

<b>Security Plan .....</b>	<b>2</b>
<b>Facility Layouts .....</b>	<b>46</b>
<b>[REDACTED]</b>	
<b>[REDACTED]</b>	
<b>[REDACTED]</b>	
<b>Production Center Lighting &amp; Fencing.....</b>	<b>49</b>
<b>Security Command Center .....</b>	<b>50</b>
<b>Retail Dispensary Security Assessments .....</b>	<b>51</b>
<b>[REDACTED]</b>	
<b>[REDACTED]</b>	
<b>Standard Operating Procedures .....</b>	<b>71</b>
Agent Card Handling .....	71
Authorized Retail Access .....	73
Background Check SOP .....	75
Entering the Dispensary .....	77
Patient Identification .....	79
Stocking the Safe .....	81





































































































































































**Question 5 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

A.) Maui Medical Marijuana Dispensary, LLC (MMMD) shall inform qualified patients with Department-approved debilitating medical conditions about the potential risks and benefits of using medical cannabis, and medical cannabis products that will be available at MMMD's retail dispensary locations.

Under guidance of the Director of Patient Education (See Addenda: Pressman Bio), MMMD's retail dispensary agents shall inform the patient of the following: debilitating medical conditions for which medical cannabis has been shown to be specifically indicated or may provide therapeutic benefits; the common, uncommon, and rare adverse reactions of medical cannabis; known drug interactions of medical cannabis with other prescribed medicines, especially absolute contraindications versus combinations to watch closely for versus those combinations where the effects of either drug or medical cannabis will be enhanced or diminished; those conditions known to respond to certain specific strains of medical cannabis available to qualifying patients from MMMD; products available from MMMD (cannabis pistillate inflorescence, capsules, lozenges, pills, oils or oil extracts, tinctures, ointments or skin lotions); specific medical cannabis manufactured products and delivery systems that may enhance or decrease the effectiveness of any cannabis strain or product; and dosage/titration for manufactured medical cannabis products based on patients' weight, metabolism, and tolerance.

MMMD shall provide licensed dispensary agents training in the following: an understanding of the current indications of medical cannabis; regulations covering authorization of sale to any patients requesting medical cannabis; an understanding of as much is known of the appropriate doses and adverse reactions, drug interactions, pharmacology, and pregnancy safety of medical cannabis; the crucial importance of receiving signed consent forms prior to dispensing medical cannabis; patient confidentiality (See Addenda: HIPAA Privacy and Security

### Question 5 Merit Criteria Response

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

SOP); the importance of reviewing patient handouts with patients prior to receiving medical cannabis; and safety issues regarding the use of medical cannabis. (See Addenda: Safe Dosing and Available Products). Other handouts include providing a list of clinicians in the local community experienced with individuals using medical cannabis; providing a handout with a list of common, uncommon and rare adverse reactions to the use of medical cannabis; providing contact information for community poison control centers; and providing a list of telephone numbers of local emergency departments.

B.) MMMD performed months of due diligence assessing current and forecasting future medical cannabis market conditions in Maui County, Hawaii. Based on this research, the team has produced a comprehensive market analysis and pro forma to identify qualifying patient demand, and establish a strategy to produce a supply of medical cannabis sufficient to meet the needs of qualified patients (See Addenda: Pro forma).

Patient demand projections maintain conservative growth through 2017, then increases after the Department of Health enters into reciprocity agreements in the predicted year of 2018. MMMD anticipates that its market share of patient demand will grow to a predicted annual demand of 2,900 pounds by the end of 2019. MMMD's existing [REDACTED] (first) production center is centrally located in [REDACTED], and it is capable of producing and manufacturing over 3,000 pounds of medical cannabis annually. This analysis is based on incorporating the maximum regulated plant count of 3,000 plants per production center, as well as conservatively modeling yield numbers. MMMD will implement a perpetual harvest cultivation method, capable of continuously harvesting and processing over 250 pounds of product each month, as needed. The main production center will adequately produce, process and manufacture medical cannabis to serve qualified patient needs beyond the year 2020.

**Question 5 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

Construction of the second, separate production center on the existing premises will commence once the main (first) production center is producing at a rate of 50% of capacity. This will ensure an uninterrupted supply of medical cannabis to qualified patients (See Addenda: Risk Mitigation SOPs).

In order to produce and maintain a consistent supply of medical cannabis products, all manufacturing processes shall be controlled through strict written standard operating procedures for each unique formulation. The production centers have been designed with the capacity and ability to mitigate risk, maintain high levels of quality and inventory control, and to prevent disruption to the continuous manufacturing process.

MMMD's retail dispensary locations exceed 2,000 square feet of space and provide adequate secure storage areas to maintain a constant supply of medicine. MMMD will track patient purchases and incorporate patient feedback tools to ensure that MMMD produces, manufactures and dispenses accurate quantities of preferred medical cannabis products.

MMMD has established a comprehensive strategy to produce and maintain a supply of medical cannabis by implementing proven cultivation and processing systems, strict written standard operating procedures, integrated pest and disease management methods, and biosecurity features within the premises. In order to meet future demand, the premises provide for expansion of production and manufacturing operations on the existing property.

C.) MMMD and its team of medical cannabis industry real estate, security and construction specialists thoroughly considered all of the safe, smart, and beneficial requirements provided within part HRS §329D-22, HAR §11-850-8, and they have identified two ideal retail dispensary locations providing easy access and a safe environment to Maui's qualified patients.

**Question 5 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

Both the [REDACTED] and [REDACTED] proposed properties are distanced well beyond 750' lineal feet from any school, playground or public housing property pursuant to HRS §329D-22. Additionally, both properties are zoning compliant and approved for use. The proposed properties are located on main thoroughfares within close proximity to major population centers, and they both contain adequately sized, stand-alone buildings, with safe exterior illumination. The [REDACTED] dispensary location provides immediate access to a large portion of Maui's population, as [REDACTED] is a central hub for the Island. The [REDACTED] location was selected as [REDACTED] provides access for a majority of the [REDACTED] side of the island. Please see the proposed property locations with (See Addenda: Retail Location Area Maps).

The proposed retail dispensary properties contain stand-alone buildings with unfinished interiors, which MMMD will improve to contain safe and segregated waiting, dispensing, and private consultation areas. All improvements will be made compliant to local and federal building code, as well as ADA requirements. Security will consist of solid, locking doors protected by access control and alarm, recording video surveillance throughout the exterior, and within every interior room except bathrooms. Additionally, the retail dispensaries will contain secure storage rooms constructed of reinforced walls, ceilings, and doors. Additionally, a security guard will be on duty at all times the dispensary is occupied.

All potential property locations have been professionally assessed by MMMD's security personnel for site security, who have applied past knowledge and experience to develop, establish, and will constantly improve MMMD's security posture to ensure its retail dispensing locations are safe (See Addenda: Security Assessments, Security Plan).

Additionally, MMMD will employ and train qualified dispensary agents to follow specific written standard operating procedures to keep the product, patients, and the public safe.

**Question 5 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

Dispensary agents will verify qualified patients' credentials, provide safe and secure premises through monitoring and standard operating procedures, compliantly serve qualified patients, and maintain detailed inventory and sales records.

D.) Maui Medical Marijuana Dispensary, LLC is greatly concerned with customer satisfaction. MMMD will use best practices when designing and implementing patient survey tools that capture customer feedback. Survey tool options that may be utilized include email surveys, SMS messages, and in-store paper surveys. MMMD shall only use digital tools that are certified to protect PHI, such as SurveyMonkey Platinum Business Plan which includes the HIPAA-required Business Associate agreement. MMMD consultants, Revolution Managed Services, are highly experienced in designing and implementing scientific observational research studies conducted within licensed dispensaries which collect patient data regarding personal experiences and preferences for medical cannabis products. These studies are designed to gather market data without collecting any identifying information about the individual patient, thereby eliminating any exposure to protected health information. MMMD shall implement this same research within its dispensaries using best practices in collecting observational data following IRB guidelines, and shall make the results of this research available to the public and to individual qualifying. MMMD shall utilize this feedback to predict market demand for specific strains and manufactured products. The data collected from these tools shall be stored in a secure manner that safeguards the customer's protected health information. When patients report adverse effects or product complaints, MMMD shall follow written procedures modeled after 21 CFR § 211.198 regarding Complaint files (See Addenda: Complaint Files SOP). In the event that a recall is necessary, MMMD shall follow written procedures for initiating a recall to ensure that customers' concerns and needs are handled expeditiously and to their satisfaction.

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*



**Question 5 Addenda**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Dr. Howard Pressman Biography**

---

Dr. Howard Ira Pressman will serve in a Director of Medical Education role for Maui Medical Marijuana Dispensary, LLC (MMMD). Pressman is employed by Revolution Managed Services (RMS), the company hired by applying entity MMMD to serve as a managed services consultant. He will serve in this role until MMMD hires a local Director of Medical Education, and will assist with the training and development of this employee.

Dr. Pressman will be responsible for the strategic direction and implementation of medical education programs to support MMMD's goal to provide safe, compassionate care to the patients of Maui.

Dr. Pressman believes it is vitally important for the medical and lay communities to have a broader appreciation of the established and potential value of medical cannabis and to support the removal of current barriers that impede research in this field. He is especially excited about the potential for using medical cannabis to treat a variety of debilitating conditions, including but not limited to post-traumatic stress disorder, with significantly fewer short- and long-term adverse effects compared with current psychotropic medications.

Dr. Pressman received his B.S. from the University of Maryland, College Park, in 1969, and received his M.D. from University of Maryland, Baltimore, in 1973.

His professional training includes: a straight pediatric residency from 1973-1975 at University of Connecticut; a fellowship in behavioral pediatrics from 1975-1976 at University of Connecticut; a general psychiatric residency from 1976-1978 at Georgetown University; and a fellowship in child psychiatry from 1978-1979 at Georgetown University.

Dr. Pressman is board certified with the American Academy of Psychiatry and Neurology, Adult Psychiatry (1980), Child Psychiatry (1982), and is board eligible with the American Academy of Pediatrics (1975).

His teaching appointments include but are not limited to clinical assistant professor of psychiatry and pediatrics at Georgetown University Hospital from 1982-2000 and clinical assistant professor of psychiatry at University of Maryland School of Medicine from 1985-1989.

Dr. Pressman's extensive work experience as the consulting psychiatrist at more than a dozen organizations---including housing and homeless shelters, children community centers, adolescent and family organizations, centers for disabled adults, and more---positions him as not only a compassionate steward of patients, but supports his ability to oversee all professional education activities. Education activities with MMMD shall include ownership over successful participation rates, pre/post metrics tracking, and post education follow ups.

<b>PROFORMA</b>		<b>Q1 2016</b>	<b>Q2 2016</b>	<b>Q3 2016</b>	<b>Q4 2016</b>	<b>Q1 2017</b>	<b>Q2 2017</b>	<b>Q3 2017</b>	<b>Q4 2017</b>	<b>2018</b>	<b>2019</b>
<b>REVENUE</b>		-	-	-	1,438,394	1,438,394	1,797,992	1,797,992	2,157,590	14,776,098	18,038,456
<b>Dispensing (Vertically-Integrated MFG &amp; Retail)</b>		-	-	-	1,438,394	1,438,394	1,797,992	1,797,992	2,157,590	14,776,098	18,038,456
Derivative Products (Oil)		-	-	-	246,456	246,456	308,070	308,070	369,684	2,531,754	3,090,730
Flower		-	-	-	1,191,938	1,191,938	1,489,922	1,489,922	1,787,906	12,244,345	14,947,726
<b>EXPENSES</b>		172,000	6,318,430	6,354,472	1,533,606	1,411,243	1,332,968	1,403,505	1,804,132	8,152,056	8,775,733
<b>Start up Costs (Total)</b>		35,000	35,000	35,000	35,000	-	-	-	-	-	-
Application Fees (Included in Above)		5,000	5,000	5,000	5,000	-	-	-	-	-	-
Legal Fees (Included in Above)		15,000	15,000	15,000	15,000	-	-	-	-	-	-
Travel Expenses (Included in Above)		10,000	10,000	10,000	10,000	-	-	-	-	-	-
Due Diligence (Included in Above)		5,000	5,000	5,000	5,000	-	-	-	-	-	-
<b>CAPEX (Real Estate &amp; Development)</b>		60,000	5,684,000	5,645,000	350,000	150,000	-	-	-	-	-
Real Estate - Purchase / Acquisition (Total)		\$ 10,000.00	989,000	-	-	-	-	-	-	-	-
Construction - Cultivation / Processing		-	3,520,000	3,520,000	-	-	-	-	-	-	-
Construction - Retail Dispensaries		-	500,000	500,000	-	-	-	-	-	-	-
Laboratory Equipment		-	-	1,200,000	-	-	-	-	-	-	-
Interior Fixtures		-	250,000	250,000	200,000	-	-	-	-	-	-
Utilities - Offsite		-	250,000	-	-	-	-	-	-	-	-
Misc./Contingency		50,000	175,000	175,000	150,000	150,000	-	-	-	-	-
<b>Cost of Goods Sold</b>		-	258,930	431,122	905,256	990,293	1,061,843	1,132,380	1,533,007	7,067,556	7,691,233
<b>- Cultivation &amp; Processing</b>		-	258,930	431,122	665,256	750,293	821,843	892,380	1,293,007	6,107,556	6,731,233
Crop Inputs		-	-	45,987	45,987	57,484	57,484	68,981	106,046	509,764	578,269
Payroll (Production, Retail, Security)		-	258,930	258,930	383,110	397,610	469,160	469,160	642,380	2,979,980	3,183,360
Utilities		-	-	121,019	121,019	151,273	151,273	181,528	279,068	1,341,485	1,521,759
Packaging and Labeling		-	-	37,343	37,343	46,679	46,679	56,014	86,112	413,944	469,571
Secured transportation		-	-	-	-	-	-	-	-	-	-
Product Formulation		-	-	-	69,154	86,442	86,442	103,730	159,467	766,563	869,577
Cultivation Waste		-	-	1,037	1,037	1,297	1,297	1,556	2,392	11,498	13,044
Processing Waste		-	-	-	3,458	4,322	4,322	5,187	7,973	38,328	43,479
Processing Inputs		-	-	4,149	4,149	5,187	5,187	6,224	9,568	45,994	52,175
<b>- Dispensary (Flower &amp; Derivative)</b>		-	-	-	240,000	240,000	240,000	240,000	240,000	960,000	960,000
Derivative		-	-	-	-	-	-	-	-	-	-
Flower		-	-	-	-	-	-	-	-	-	-
<b>Operating Expenses</b>		77,000	340,500	243,350	243,350	270,950	271,125	271,125	271,125	1,084,500	1,084,500
Lobbyist		-	-	5,000	5,000	5,000	5,000	5,000	5,000	20,000	20,000
Corporate Payroll Expenses		-	128,500	128,500	128,500	144,500	153,750	153,750	153,750	615,000	615,000
Staffing/HR/Insurance		-	-	12,850	12,850	14,450	15,375	15,375	15,375	61,500	61,500
Dispensary Lease (Pa'ia)		27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	108,000	108,000
Travel		30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	120,000	120,000
Consulting Fees		15,000	150,000	15,000	15,000	15,000	15,000	15,000	15,000	60,000	60,000
Legal Fees		5,000	5,000	10,000	10,000	20,000	10,000	10,000	10,000	40,000	40,000
Office Expense		-	-	5,000	5,000	5,000	5,000	5,000	5,000	20,000	20,000
Other Operating Expenses		-	-	10,000	10,000	10,000	10,000	10,000	10,000	40,000	40,000
<b>NET INCOME</b>		<b>(172,000)</b>	<b>(6,318,430)</b>	<b>(6,354,472)</b>	<b>(95,213)</b>	<b>27,150</b>	<b>465,024</b>	<b>394,487</b>	<b>353,459</b>	<b>6,624,043</b>	<b>9,262,723</b>

**REVENUE**

QUARTER	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019
Annual Maui Visitors	2,000,000	2,020,000	2,040,200	2,060,602	2,081,208	2,102,020	2,123,040	2,144,271	2,165,713	2,187,371	2,209,244	2,231,337	2,253,650
Reciprocity Medical Card Holders Rate (Start Q1 2018)						0.75%	0.75%	0.75%	0.75%	1.00%	1.00%	1.00%	1.00%
<b>Total Monthly Visitation Patient Population</b>	-	-	-	-	-	<b>1,314</b>	<b>1,327</b>	<b>1,340</b>	<b>1,354</b>	<b>1,823</b>	<b>1,841</b>	<b>1,859</b>	<b>1,878</b>
Local Maui Population	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000
Local Maui Adoption Rate	1%	1%	1.25%	1.25%	1.50%	1.50%	1.75%	1.75%	2.00%	2.00%	2.00%	2.00%	2.00%
<b>Total Local Patient Population</b>	<b>1,630</b>	<b>1,630</b>	<b>2,038</b>	<b>2,038</b>	<b>2,445</b>	<b>2,445</b>	<b>2,853</b>	<b>2,853</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>	<b>3,260</b>
<b>Combined Monthly Visitation &amp; Local Patient Pop.</b>	<b>1,630</b>	<b>1,630</b>	<b>2,038</b>	<b>2,038</b>	<b>2,445</b>	<b>3,759</b>	<b>4,179</b>	<b>4,193</b>	<b>4,614</b>	<b>5,083</b>	<b>5,101</b>	<b>5,119</b>	<b>5,138</b>
<b>Company</b> Maui Market Share	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
# of <b>Company</b> Patients	815	815	1,019	1,019	1,223	1,879	2,090	2,096	2,307	2,541	2,551	2,560	2,569
Monthly Consumption Per Patient (LBS)	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375	0.09375
Monthly Patient Demand (LBS)	76	76	96	96	115	176	196	197	216	238	239	240	241
Retail Price Per Pound (LBS)	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200	\$ 5,200
Quarterly Flower Revenue	\$ 1,191,938	\$ 1,191,938	\$ 1,489,922	\$ 1,489,922	\$ 1,787,906	\$ 2,748,595	\$ 3,056,186	\$ 3,065,889	\$ 3,373,674	\$ 3,716,804	\$ 3,730,133	\$ 3,743,596	\$ 3,757,193
Quarterly Derivative Product (Oil) Revenue	\$ 246,456	\$ 246,456	\$ 308,070	\$ 308,070	\$ 369,684	\$ 568,325	\$ 631,925	\$ 633,932	\$ 697,572	\$ 768,521	\$ 771,277	\$ 774,060	\$ 776,872
<b>Quarterly Revenue</b>	<b>\$ 1,438,394</b>	<b>\$ 1,438,394</b>	<b>\$ 1,797,992</b>	<b>\$ 1,797,992</b>	<b>\$ 2,157,590</b>	<b>\$ 3,316,920</b>	<b>\$ 3,688,112</b>	<b>\$ 3,699,821</b>	<b>\$ 4,071,246</b>	<b>\$ 4,485,325</b>	<b>\$ 4,501,410</b>	<b>\$ 4,517,656</b>	<b>\$ 4,534,065</b>

# MAUI MEDICAL

## MARIJUANA DISPENSARY LLC

### How can Medical Cannabis Help?

THC (tetrahydrocannabinol) and CBD (cannabidiol) are two of at least 120 cannabinoids identified in the cannabis plant (depending on the strain) that may provide significant health benefits. Scientists are aware of three different types of cannabinoids: endocannabinoids (found within the human body), phytocannabinoids (found in plants such as cannabis), and synthetic cannabinoids (created in a laboratory), according to U.S. National Library of Medicine National Institutes of Health.

---

### What kind of medical cannabis products can I buy?

Patients will be able to purchase cannabis inflorescence, as well as extracts, lotions and topical ointments at MMMD. MMMD will carry the highest quality products available as a result of extensive testing and safety measures taken by cultivation centers. Dispensary employees will be knowledgeable about the different strains of cannabis, and how their varying cannabinoid levels can help specific conditions, so that they can assist patients to find a product regimen that works best for them.



#### Cannabis Inflorescence

Cannabis inflorescence is intended for consumption through baking or infusion into another form. Hawaii Department of Health warns against smoking, inhaling, or vaping medical cannabis.



#### Cannabis Oil Extracts

Extracts can be taken orally, sublingually or applied topically. Concentrated cannabis oil extracts can also be utilized as an ingredient to vaporize or cook with. Some cannabis oils come with an applicator for measured dosing. These oil extracts—CBD-rich and THC-dominant—are very potent. The time of onset and duration of effect vary depending on the method of administration.

#### Tinctures

Tinctures are herbal remedies in which the active ingredients of cannabis are dissolved in alcohol or another solvent. Their effect and duration may be delayed by 2 or more hours.



#### Capsules & Pills

Cannabis oil can also be taken in a capsule, pill or lozenge like a vitamin or supplement. The effect and duration may be delayed by 2 or more hours.



#### Lotions

Cannabis tinctures and oil can also be infused in a balm, lotion or ointment and applied directly to the skin. Patients report that cannabis topicals can be effective for pain, inflammation, infections, and skin conditions. Because they are applied externally, topicals, and salves are not inebriating.

# CANNABIS PRODUCT EDUCATION

---

- 1. START WITH A SINGLE 10MG SERVING**  
A first time patient should start with a 10mg or smaller dose until the affects of the medicine are known.
- 2. BE PATIENT**  
The effects of the cannabis medication may be delayed by 2 or more hours.
- 3. DO NOT MIX SUBSTANCES**  
Medical cannabis should not be combined with alcohol or controlled substances.
- 4. SAFE STORAGE**  
Keep out of reach of children. Store in original, child-proof container.



































































































































<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

**1. Purpose/Objective**

The purpose of this procedure is to train employees on the essential elements of maintaining the privacy and security of sensitive information and protected health information (PHI) pursuant to the United States Health Insurance Portability and Accountability Act.

**2. Scope**

This procedure applies to all employees that come into contact with Protected Health Information (PHI).

**3. Background**

Protecting patient privacy and confidentiality is of utmost importance to any organization that works with patient consumers in any manner. Employees must understand their role in protecting patient confidentiality, as well as the administrative, technical, and security procedures required for maintaining private patient records.

**4. Responsibilities**

Dispensary managers are responsible for ensuring that new hires are trained on HIPAA before coming into contact with patients or PHI. Employees are responsible for carrying out HIPAA procedures.

**5. Procedure**

**5.1 What is HIPAA**

5.1.1 History of the Health Insurance Portability and Accountability Act

- What does HIPAA do?
- What does HIPAA Protect?

5.1.2 HITECH Act

- HIPAA Privacy Rule
- HIPAA Security Rule

5.1.3 Protected Health Information

- Printed
- Spoken
- Electronic

5.1.4 Definition of Protected Health Information (PHI)

<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

**5.1.5 Examples of PHI**

- Names
- Geographic identifiers
- All elements of dates such as birth date, admission date, discharge date, etc.
- Phone numbers
- Fax Numbers
- Email addresses
- Social security numbers
- Medical records numbers
- Health plan beneficiaries' numbers
- Account numbers
- Certificate license numbers
- Vehicle identification numbers
- Device identifiers and serial numbers
- Web Universal Resource Locators (URLS)
- Internet Protocol (IP) addresses
- Biometric Identifiers such as fingerprints
- Full face photographic images
- Any other unique identifier such as a code or characteristic

**5.2 HIPAA Violations**

5.2.1 Unauthorized Access to PHI

5.2.2 Breaches in privacy protocol

5.2.3 Penalties for Breaches

- Civil penalties
- Criminal penalties

5.2.4 Breach notification requirements

**5.3 HIPAA Privacy Rule**

5.3.1 Individual Patient Rights

5.3.2 "Minimum Necessary" Information

5.3.3 Research Data

5.3.4 Marketing and Fundraising Data

5.3.5 Business Associates

**5.4 Disclosure of PHI**

<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

- 5.4.1 Permitted use
- 5.4.2 Non-permitted disclosure

**5.5 HIPAA Security Rule**

- 5.5.1 Confidentiality, Availability, and Integrity of Data
- 5.5.2 Security Standards and Safeguards

- Malicious software
- File Sharing
- Mobile Devices
- Password Management
- Data encryption
- Disposal of Data and Devices containing PHI
- Physical Security of Data

**6. Prerequisites**

None.

**7. References**

Title of Document
HIPPA Training Courses
Maui Medical Marijuana Dispensary, LLC Employee Manual
Retail Dispensing Operations Manual

**8. Revision History**

Rev.	Revision Date	Modified by	Reason for Modification
01	1/9/2016	Gina Crosley-Corcoran, MPH	Added new format.

<b>Title</b>	Complaint Files	<b>Document ID</b>	RTL-055	<b>Rev.</b>	01
<b>Title</b>		<b>Approved by</b>		<b>Date</b>	
	Administrative	Ken Ota, CEO		01/01/2016	

### 1. Purpose/Objective

To describe the process for addressing all written and oral complaints regarding drug products.

### 2. Scope

This procedure applies to all written and oral complaints regarding drug products.

### 3. Background

In accordance with HAR § 211.192, written procedures describing the handling of all written and oral complaints regarding a drug product must be established and followed. Such procedures must include provisions for review by the quality control unit, of any complaint involving the possible failure of a drug product to meet any of its specifications and, for such drug products, a determination as to the need for an investigation pursuant to § 211.192. Such procedures will include processes for review to determine whether the complaint represents a serious and unexpected adverse drug experience which is required to be reported to the Food and Drug Administration.

### 4. Responsibilities

The Director of Clinical Education and Director of Compliance are responsible for ensuring that all procedures are followed pursuant to 21 CFR § 211.192.

### 5. Procedure

1. Maintain a written record of each complaint in a file designated for drug product complaints. (The file regarding such drug product complaints will be maintained at the establishment where the drug product involved was manufactured, processed, and packed.)
2. Maintain written records involving a drug product until at least 1 year after the expiration date of the drug product, or 1 year after the date that the complaint was received, whichever is longer.
3. Include the following information in the written record:
  - The name and strength of the drug product
  - Lot number
  - Name of complainant
  - Nature of complaint

<b>Title</b>	Complaint Files	<b>Document ID</b>	RTL-055	<b>Rev.</b>	01
<b>Title</b>		<b>Approved by</b>		<b>Date</b>	
Administrative		Ken Ota, CEO		01/01/2016	

- Reply to complainant
- 4. In Case of an Investigation
  - Maintain a written record including the findings of the investigation and follow-up
  - Maintain the record or copy of the record of the investigation at the establishment where the investigation occurred in accordance with 21 CFR § 211.180.
- 5. In Case No Investigation Occurs
  - Maintain a written record of the reason that an investigation was found not to be necessary and the name of the responsible person making such a determination.

**6. Prerequisites**

None.

**7. References**

Title of Document
Maui Medical Marijuana Dispensary, LLC Complaint Log

**8. Revision History**

Rev.	Revision Date	Modified by	Reason for Modification
01	1/9/2016	Gina Crosley-Corcoran	Added new format.

# MAUI MEDICAL

MARIJUANA DISPENSARY LLC

## Recall Plan

<u>Recall Plan Version and Verification</u>	2
<u>Purpose</u>	3
<u>Key Definitions</u>	3
<u>Recall Procedures and Plan</u>	4
<u>Evaluation of a Complaint</u>	
<u>Initiation of a Recall</u>	6
<u>Identification of Recalled Product</u>	7
<u>Monitoring Recall Effectiveness</u>	7
<u>Removal of Recalled Product</u>	7
<u>Recall Termination</u>	8
<u>Roles and Responsibilities of Individuals</u>	8
<u>Participating in a Recall</u>	

# Recall Plan Verification and Approval

Maui Medical Marijuana Dispensary, LLC Recall Plan shall be reviewed annually as well as after any company recall and revised as necessary when personnel, procedures, processes, or as other factors change or require updating.

Version and Date Approved:

---

Month/Day/Year

Approved By:

---

Name/Title

# Purpose

The primary goal of a recall is to protect users from medical cannabis products that present a risk to public health by removing products or correcting products and labels that have been deemed potentially harmful to users due to defective quality, safety, efficacy, or information. Therefore, in accordance with 21 CFR Part 7 Subpart C, HRS § 328-17.5, and HAR § 16-95-30, the primary goal of this recall plan is to assist in the execution of a recall by defining roles and responsibilities of key individuals, centralizing current contact information, and supplying prewritten templates for timely communication. Individuals participating in a company recall shall review the recall plan and be able to execute the plan in the event of a recall. Furthermore, this plan will be executed annually in order to identify any problems within the recall plan. Records of these mock recalls will be documented and filed appropriately.

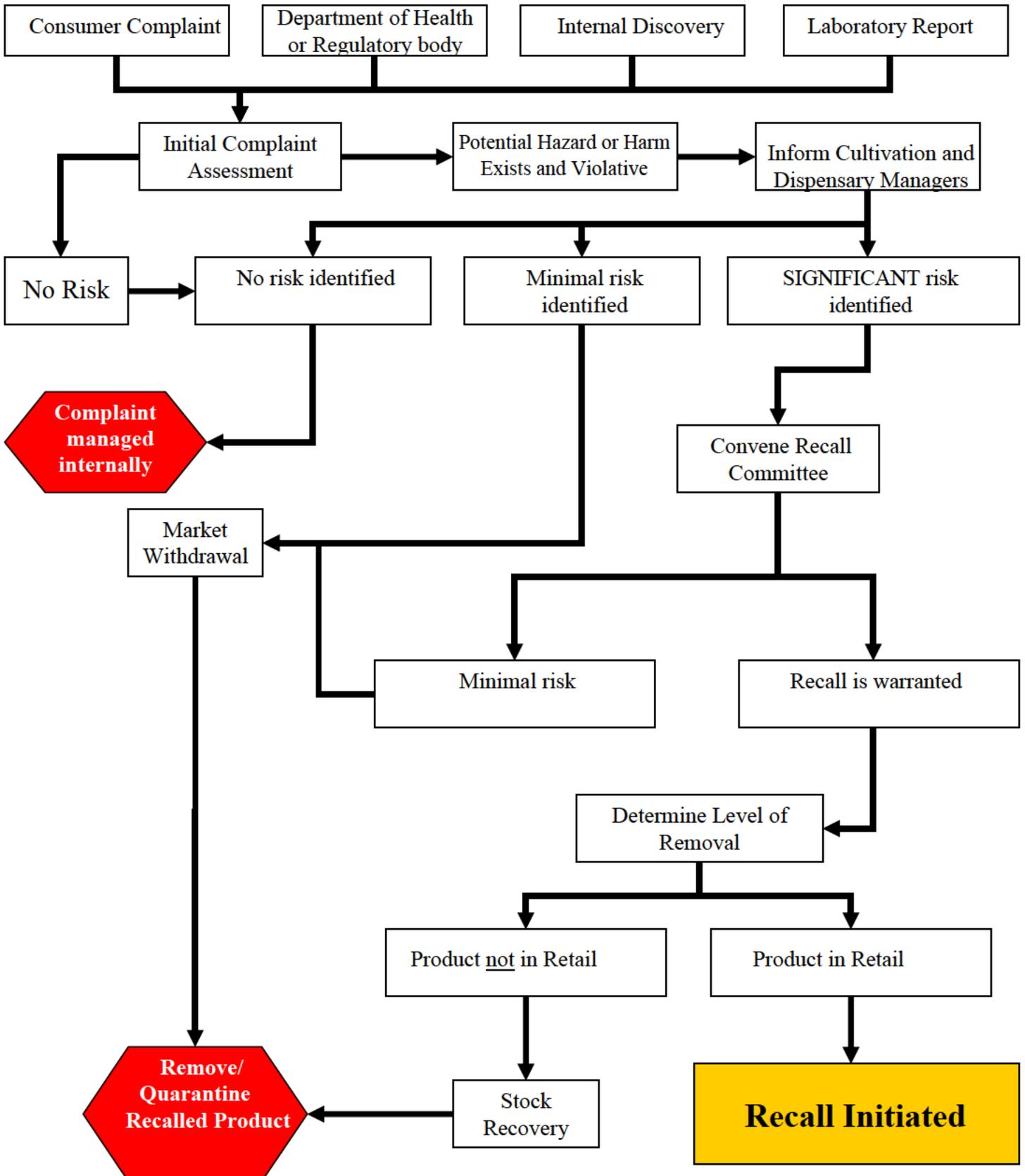
# Key Definitions

Recall	A product is removed from the market or a correction is made to the product because it is either defective or potentially harmful
Depth of Recall	Depending on the product's degree of hazard and extent of distribution, the recall strategy will specify the level in the distribution chain to which the recall is to extend, i.e., wholesaler, retailer, user/consumer
Distribution List	A product specific list of distribution sites that identifies accounts (business name, address, and contact information) that received the recalled product. This list shall be maintained as necessary to facilitate the location of products that are being recalled. Such records shall be maintained for a period of time that exceeds the shelf life and expected use of the product and is at least the length of time specified in other applicable regulations concerning records retention
Market Withdrawal	Occurs when a product has a minor violation that would not be subject to legal action. The firm removes the product from the market or corrects the violation
Public Warning	Aims to alert the public that a product being recalled presents a serious hazard to health. It is reserved for urgent situations where other means for preventing use of the recalled product appear inadequate. The recalling firm will issue such publicity which shall occur as (i) General public warning through the general news media, either national or local as appropriate, or (ii) Public warning through specialized news media, e.g., professional or trade press, or to specific segments of the population such as physicians, hospitals, etc.
Recall Committee	A committee consisting of key staff with knowledge, expertise, authority, and responsibility to manage the recall and execute its plan
Recall Plan	A current written contingency plan shall be prepared and maintained for use in initiating, implementing, effecting, and terminating a recall in accordance with 21 CFR 7.40 through 7.49, 7.53, and 7.55. This plan shall be reviewed annually as well as after any company recall and revised as necessary when personnel, procedures, processes, or as other factors change or require updating
Recall Strategy	A planned specific course of action to be taken in conducting a specific recall, which addresses the depth of recall, need for public warnings, and extent of effectiveness checks for the recall
Stock Recovery	A correction or removal of a product that has not been marketed or that has not left the direct control of the manufacturer
<b>Recall Category</b>	
Class I Recall	A situation in which there is a reasonable probability that the use of, or exposure to, a violative product will cause serious adverse health consequences or death
Class II Recall	A situation in which use of, or exposure to, a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote
Class III Recall	A situation in which use of, or exposure to, a violative product is not likely to cause adverse health consequences
<b>Recall Scope or Level</b>	
Consumer or User	Defines the amount and kind of product in question. Recall involving individual patients and physicians
Retail	Recall to the level immediately preceding the consumer or user level (dispensaries)
Wholesale	Recall involving all distribution levels between the manufacturer and retailer

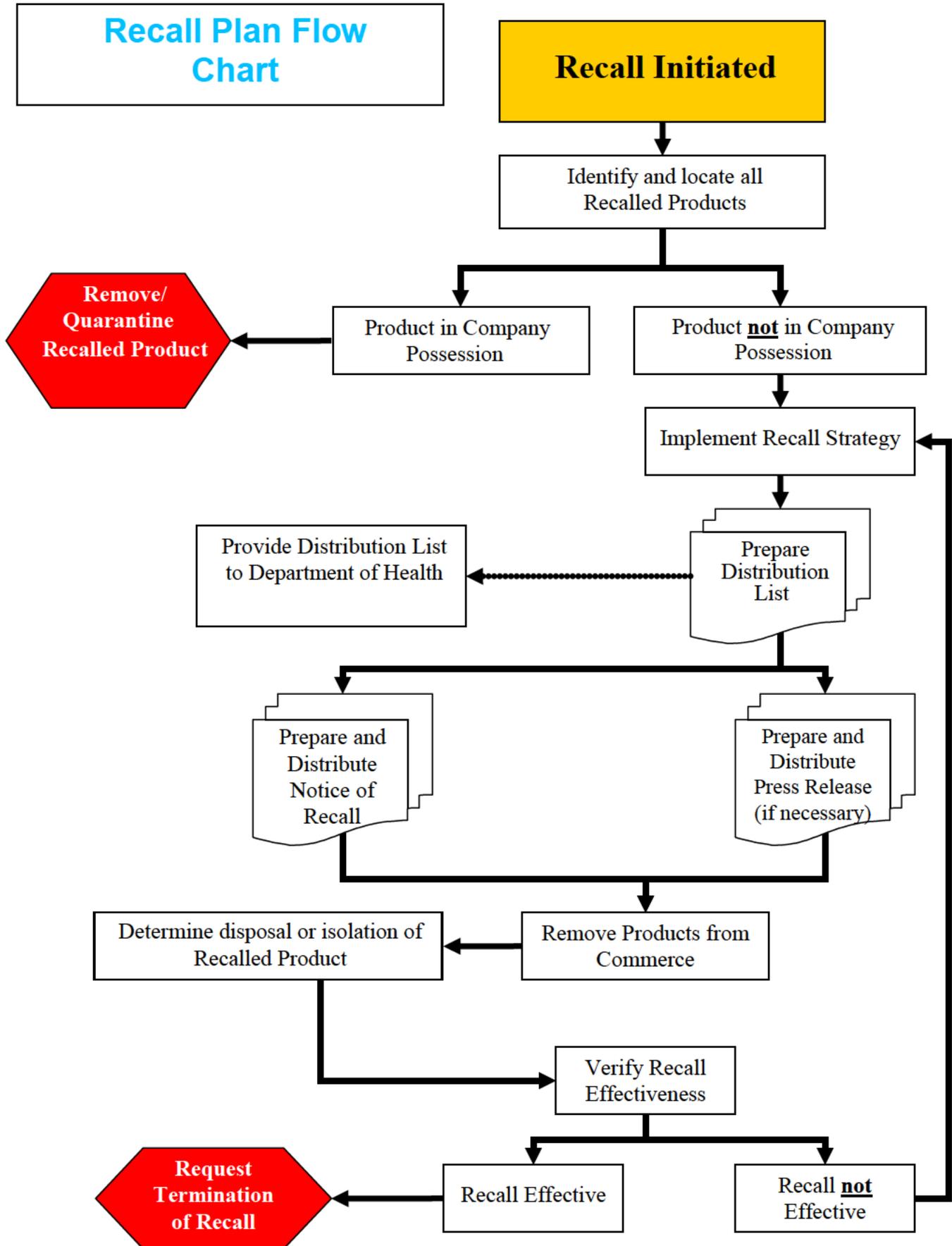
# Recall Procedures

A recall shall be initiated as a result of reports or complaints on quality, safety, or efficacy of the product. Reports or claims shall be referred by manufacturers, distributors, dispensaries, medical practitioners, patients, and caregivers. A recall shall also be initiated as a result of analysis and testing of samples of medical cannabis by the manufacturers or the Department of Health. A manufacturer or distributor may voluntarily initiate a recall at any time. Please refer to the Flow Charts on Complaint/Adverse Event Evaluation and Recall Process below summarizing our recall plan.

# Complaint/Adverse Event Evaluation Flow Chart



# Recall Plan Flow Chart



# Evaluation of Complaint

## Complaint or Reported Adverse Event Received

1. Complaint receipt, processing, and evaluation
  - a. Receive the complaint – Maintain a file with any product complaints received by the company
  - b. Pertinent information that shall be maintained is 1.) Complainant contact information, 2.) Product along with reported problem, 3.) Product identification, 4.) Product storage, 5.) Purchase date of product and location of product purchase, 6.) Illness and injury details
2. Complaint shall be forwarded to trained staff for initial evaluation. If primary assessment indicates recall may be necessary, the Recall Coordinator shall convene the Recall Committee for evaluation
3. Hazard and safety concerns associated with the product shall be determined
4. A strategy for product removal (and disposal, if necessary) shall be determined based on the level of threat to health and safety as well as location in commerce
5. Contact appropriate regulatory agency(ies)
6. Maintain a log of events of the recall (dates, actions, communications, and decisions)
7. Alert legal counsel

## Initiation of a Recall

In summary, if a recall is firm-initiated in accordance with 21 CFR 7.46, the agency will obtain and review the information provided by the recalling firm under 21 CFR 7.46(a). This includes reviewing and suggesting changes to the firm's recall strategy, to its recall communication, and to its press release (if necessary).

The firm, as soon as possible, but preferably within 24 hours, after learning of a recall either planned or in progress, shall notify the appropriate agency overseeing product recall. The recalling firm shall scan and e-mail or fax a copy of the recalling firm's recall communication and press release, if any. The possible need for bilingual or multilingual communications should be explored.

All recall communications shall be written in accordance with the following guidelines: be brief and to the point; clearly identify the product(s) such as the product name, size, brand name, serial numbers, potency, dosage, type, model, lot number(s), UPC codes, administration route, and any other pertinent descriptive information to enable accurate and immediate identification of the product; contain a concise statement of the reason for the recall; state known or potential hazard(s), and instructions for consignees to follow in handling the recall. An example of a model recall letter is provided on page 60 of the FDA's Regulatory Procedures Manual (<http://www.fda.gov/downloads/ICECI/ComplianceManuals/RegulatoryProceduresManual/UCM074312.pdf>).

If a firm has voluntarily initiated a recall of any product(s), then it is responsible for promptly notifying each of its direct accounts.

Recall communications shall be sent in the most expeditious manner and commensurate with the hazard of the product being recalled, and, where appropriate, sent with proof of receipt (e.g., by certified mail). All communication methods related to the firm's recall shall be documented accordingly.

Recall communication, particularly letters to direct accounts should include a postage-paid, self-addressed post card, envelope, or other arrangement to enable the consignee to report the amount of the product available and its disposition. Recall communications shall direct that the consignee submit a report regardless of whether or not any of the products are on hand (Appendix B). An example is provided on page 62 of the FDA's Regulatory Procedures Manual (<http://www.fda.gov/downloads/ICECI/ComplianceManuals/RegulatoryProceduresManual/UCM074312.pdf>).

## Identification of Recalled Product

It is the responsibility of our company to ensure identification of all recalled products and recalled quantities. A distribution list shall be maintained and kept on file in order to identify recipients of the recalled product. At a minimum, the distribution list shall identify:

- a. Account name that received the recalled product(s)
- b. Account addresses
- c. Contact names and telephone numbers
- d. Account type

Additional product information shall include:

- a. Amount of product received/shipped
- b. Product ship date(s)
- c. Amount of product used and returned

## Monitoring Recall Effectiveness

It is the recalling firm's responsibility to determine whether its recall is progressing satisfactorily. The firm has an obligation to conduct effectiveness checks as part of its recall strategy. Effectiveness checks assist in the verification that all known, affected consignees have received notification about a recall and have taken appropriate action.

In some instances, a recalling firm may be unable to check the effectiveness of its recall. This could occur when a recall extends to the consumer-user level, the confidential business records of a firm's customers are not accessible, wholesalers, distributors, or retailers do not cooperate, or, because the urgency of the situation requires an all-out effort. If the response from the consignees is less than 100%, the recall shall be deemed ineffective and the recall strategy shall be reassessed. All verifications shall be documented.

## Removal of Recalled Product

**Removal:** All reasonable efforts must be made to remove affected products from commerce. Recalled products in commerce shall be detained, segregated, and managed in a manner determined by the recalling firm. Recalled products in the firm's possession shall be detained and segregated. All quantities and identification codes shall be documented to assist in the reconciliation of product amounts.

**Control:** Another technique to assure the recalled product has been removed from the market. This must occur to prevent re-entry of this recalled product to commerce. All recalled products shall be clearly marked (NOT FOR SALE OR DISTRIBUTION) and stored in an area that is separated from other products. All quantities and identification codes shall be documented to assist in the reconciliation of product amounts.

**Disposition:** The final disposition of the recovered recall product must be reviewed and approved by the regulatory agency. All quantities, identification codes, and disposition shall be documented. This includes:

1. Redirection: Products may be redirected for other uses
2. Destruction: Products determined to be unsafe for intended use may be destroyed and disposed by appropriate means
3. Recondition: Products may be reworked to remove the safety risk (example: labeling)

## Recall Termination

The monitoring regulatory agency determines when the recalling firm has completed all recall activity, including monitoring and final product disposition. A recall will not be terminated until the firm has brought the product into compliance or disposed of it in an acceptable manner.

## Roles and Responsibilities of Individuals Participating in a Recall

The recall committee shall be managed by the recall coordinator who is responsible for executing key activities in a recall. These may include, but are not limited to 1.) Assure documentation of all recall decisions and actions are recorded in a master recall file, 2.) Assemble a recall committee, 3.) Identify situations requiring priority assistance and acting accordingly, 4.) Make recall decisions, 5.) Implement product recall, 6.) Communicate with management of findings and decisions at all stages of a recall.

Roles and responsibilities of every individual serving on the Recall Committee and recall team shall be clearly delineated. In addition, individuals may be responsible for more than one recall element.

- |                                    |                               |
|------------------------------------|-------------------------------|
| -Management                        | -Operations                   |
| -Recall Coordinator                | -Production                   |
| -Accounting                        | -Purchasing                   |
| -Consumer Affairs/Public Relations | -Quality Assurance            |
| -Distribution and Supply           | -Sales                        |
| -Customer Service                  | -Maintenance                  |
| -Information Technology            | -Records Management and Files |
| -Legal Counsel                     | -Regulatory Affairs           |
| -Marketing                         | -Sanitation                   |

Sample assigned responsibilities of recall team members are outlined below.

# Assigned Responsibilities of Recall Team Members

## Sample Assignments (may include, but not limited to the following)

### Assignment

1. Management of the Recall – (TBD, Title) is responsible for the coordination of all recall activities.
2. Assemble Recall Committee – (TBD, Title) is responsible for communicating the decision to recall to the members of the Recall Committee and that each member knows their responsibilities.

### Evaluation

1. Management Approval of the Recall – (TBD, Title) is responsible to decide if the recall should go forward.

### Identification

1. Create a Product Recall Log – (TBD, Title) is responsible to create and maintain a product recall log to document all events, when they occur and the company's response to each.
2. Identify all Products to be Recalled – (TBD, Title) is responsible for identifying all products which need to be recalled.

### Notification

1. Notify Appropriate Regulatory Authority – (TBD, Title) is responsible for notifying the appropriate regulatory authority (use the contact information in the Recall Plan). Contacts shall only be made through the designated committee member.
2. Prepare Press Release (if required) – (TBD, Title) is responsible for the recall press release if the decision to prepare a press release is made. Considerations for preparing a press release include:
  - a. Issuance of a press release should be the highest priority and it should be issued promptly.
  - b. Consult with your local District Recall Coordinator before issuance of a press release whenever possible.
  - c. If the company decides to prepare the press release, include all relevant information.
3. Prepare Distribution List – (TBD, Title) is responsible for preparing the recalled product distribution list. Distribution list template shall include account type, name, address, phone number, and contact name.
4. Prepare Notice of Recall – (TBD Name, Title) is responsible for preparing the written notice includes all recall relevant information.
5. Distribute Notice of Recall – (TBD Name, Title) is responsible for distribution of the Notice of Recall to all accounts that received the recalled product. Responsibilities include:
  - d. Confirm receipt of the Notice of Recall with all accounts.
  - e. Contact accounts that have not responded to the request for conformation.
  - f. Maintain records of the account communications.

## Removal

1. Detain and Segregate all Products to be Recalled which are in your Firm's Control – **(TBD, Title)** – is responsible to ensure that all products to be recalled in the firm's control are not distributed (identify, detain, and segregate products on-site, in transit, off-site storage, and off-site distribution).
2. Control the recalled product(s) – **(TBD, Title)** is responsible to ensure that recalled products do not re-enter commerce. Responsibilities include:
  - a. Quarantine and clearly identify recalled products.
  - b. Reconcile quantities, identification codes, and monitor recalled products.
  - c. Document the returned products.
3. Decide what to do with the recalled product(s) – **(TBD, Title)** is responsible for determining the action to be taken on the recalled product (destruction, reworking, and redirection). Other related responsibilities include:
  - a. Determine if the regulatory authority requires actions such as witnessing destruction of the recalled product.
  - b. Verify that the action taken has been effective.
  - c. Document the action(s) taken.
4. Verify Recall Effectiveness – **(TBD, Title)** – is responsible for verifying the effectiveness of the recall. Responsibilities include:
  - a. Verify that distribution of recalled products has ceased.
  - b. Verify that all consignees at the recall depth specified by the recall strategy have received notification about the recall.
  - c. Verify that consignees have taken appropriate action.
  - d. Document all verifications.

<b>Title</b>	Reverse Osmosis (RO) Water System Procedure	<b>Document ID</b>	FA-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Facilities		Ken Ota, CEO		01/01/2016	

**1. Purpose/Objective**

The purpose of this procedure is to maintain functional operations of the Reverse Osmosis (RO) water operations and equipment maintenance.

**2. Scope**

This procedure applies to the Reverse Osmosis water system and all of its components.

**3. Background**

The Reverse Osmosis water system is a water purification system that uses a membrane to remove certain impurities from the city water supply. It may also be used to clean runoff water from cultivation activities. Proper maintenance is critical to avoid equipment failures and water contamination.

**4. Responsibilities**

The cultivation manager and cultivation employees or designated contractors are responsible for maintaining the RO water system.

<b>Title</b>	Reverse Osmosis (RO) Water System Procedure	<b>Document ID</b>	FA-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Facilities		Ken Ota, CEO		01/01/2016	

**5. RO Maintenance Procedure**

1. Make sure that plenty of salt is available.



2. Check that equipment is operational. The display on RO water equipment will indicate that the equipment is operational or it needs maintenance.



<b>Title</b>	Reverse Osmosis (RO) Water System Procedure	<b>Document ID</b>	FA-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Facilities		Ken Ota, CEO		01/01/2016	

3. Ensure that pressure is more than 40 otherwise the equipment will not function correctly.



4. Fill the RO water tank when water is low. Place ½ gallon of Spectra Guard solution in the water for one tank.



<b>Title</b>	Reverse Osmosis (RO) Water System Procedure	<b>Document ID</b>	FA-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Facilities		Ken Ota, CEO		01/01/2016	

5. Check maintenance logs for scheduled maintenance. The maintenance log is attached to equipment.



- 5.1 Rotate slave pumps WEEKLY
- 5.2 Change water filter ANNUALLY
- 5.3 Change PZE valve ANNUALLY

**6. Prerequisites**

Salt, water, SpectraGuard, Maintenance Logs, RO water system, new filter (when necessary), new PZE valve (when necessary).

**7. References**

<b>Title</b>
MMMD, LLC Operations Manual
Reverse Osmosis Water System Manual

<b>Title</b>	Identifying Nutrient Deficiencies Procedure	<b>Document ID</b>	AG-033	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**1. Purpose/Objective**

Being able to identify and treat nutrient deficiencies is crucial to the overall health of the cannabis plants. This procedure will help to identify specific nutrient deficiencies and provide instruction on correcting them in a timely and cost effective manner.

**2. Scope**

This procedure will be utilized during all phases of the maturation of all cannabis plants by the individuals tasked with the oversight, as well as, the direct care of the plants.

**3. Background**

Nutrient deficiencies can severely impact the overall health and yield of the cannabis plants. This procedure should be used by any and all individuals tasked with the care of the plants through the entire cultivation process. Being able to quickly identify and treat each specific nutrient deficiency is critical.

**4. Responsibilities**

Supervisors and Agents directly responsible for the care of the plants throughout the Cultivation process should be familiar with this procedure.

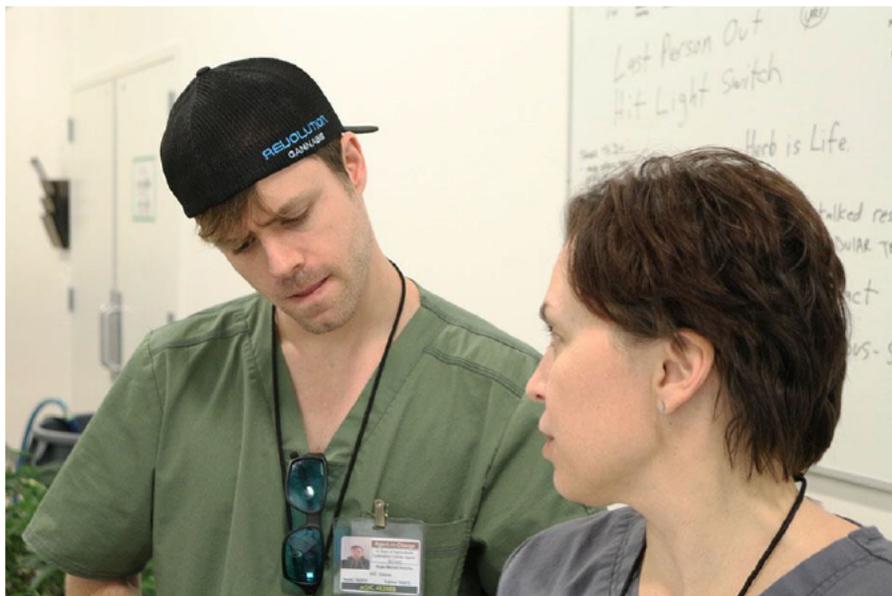
<b>Title</b>	Identifying Nutrient Deficiencies Procedure	<b>Document ID</b>	AG-033	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**5. Identifying Nutrient Deficiencies Procedure**

1. Assess the overall health of the plants under your care making sure to identify any plants with apparent nutrient deficiencies as Described in the Operations Manual.



2. Immediately report any problem plants to your direct Supervisor.



<b>Title</b>	Identifying Nutrient Deficiencies Procedure	<b>Document ID</b>	AG-033	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

3. Check applicable Zone Logs to help identify breakdowns in procedure that may have led to the apparent deficiency.



4. Report your findings to your direct supervisor and resume proper nutrient delivery procedures.



<b>Title</b>	Identifying Nutrient Deficiencies Procedure	<b>Document ID</b>	AG-033	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**6. Prerequisites**

Access to a living water source, pH Meter, access to Zone logs, and a working understanding of Nutrient deficiencies, causes and treatments are required to carry out this procedure.

**7. References**

<b>Title</b>
MMMD LLC Operations Manual
Zone Logs

**8. Revision History**

Rev.	Revision Date	Modified by	Description
01	1/12/16	Gina Crosley-Corcoran	Added ExpressTrain Module

<b>Title</b>	Gnat Nix Procedure	<b>Document ID</b>	AG-001	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Flowering		Ken Ota, CEO		01/01/2016	

**1. Purpose/Objective**

To ensure proper control of fungus and the correct application of Gnat Nix.

**2. Scope**

This procedure applies to fungus protection applications of Gnat Nix.

**3. Background**

Gnat Nix is a non-chemical way to get fungus gnats out of the plants. Gnat Nix is a recycled glass material that needs to be applied as a top-dress to the plants. It's effective wet or dry and is applicable at every stage of a gnat's life cycle from larva to adult.

**4. Responsibilities**

All cultivation employees responsible for managing the application of Gnat Nix.

**5. Environment, Health, & Safety**



This product contains pulverized glass particles. Employees must wear Personal Protective Equipment when handling this product and take care to avoid skin exposure or inhalation. Wear safety goggles and dust masks when applying product and read all manufacturer's instructions before beginning.

<b>Title</b>	Gnat Nix Procedure	<b>Document ID</b>	AG-001	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
	Flowering		Ken Ota, CEO		01/01/2016

### 6. Procedure Name

1. Fill 500 mL scoop with Gnat Nix.



2. Pour Gnat Nix on semi soil.



<b>Title</b>	Gnat Nix Procedure	<b>Document ID</b>	AG-001	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Flowering		Ken Ota, CEO		01/01/2016	

- Spread Gnat Nix with gloved fingertips until even (approximately 1/2 to 3/4 inch application)



## 7. Prerequisites

Gnat Nix, 500mL scoop, gloves, dust mask, safety goggles.

## 8. References

<b>Title</b>
Gnat Nix manufacture instructions
MMMD LLC Operations Manual

## 9. Revision History

Rev.	Revision Date	Modified by	Description
01	12/11/15	Gina Crosley-Corcoran	Created document in ExpressTrain Module.

<b>Title</b>	Measuring Light Intensity Procedure	<b>Document ID</b>	AG-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**1. Purpose/Objective**

The purpose of this procedure is confirm that correct lighting intensity is maintained throughout the plant growing cycle to ensure a healthy, robust medical cannabis plant with maximum yield and expected cannabinoid content.

**2. Scope**

This procedure applies to all phases of the cultivation process.

**3. Background**

Light intensity can vary by lighting fixture, bulb, light placement, plant height, and plant placement. Measuring light intensity is the only way to ensure that plants are receiving the proper amount of light.

**4. Responsibilities**

The Cultivation Manager is responsible for using a light meter to measure light intensity.

<b>Title</b>	Measuring Light Intensity Procedure	<b>Document ID</b>	AG-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**5. Measuring Light Intensity Procedure**

- Place light meter under the light and record light meter reading.

**Micromoles:** Micromole is a quantum unit, which quantifies the number of photons used in photosynthesis by measuring the amount of photons that fall within one square meter. Plants grow faster and stronger in conditions up to 1500 umol. Plants continue to up take more water up to 2000 umol, however plant health begins to decrease above 1500 umol.



**DLI:** Daily light integral is the measurement of micromoles plants receive in a 24-hour period. Plants that receive a low DLI typically show delayed growth and development.



- Compare measurements to Required Lighting Standards as advised by the Cultivation Manager.

**6. Prerequisites**

n/a

<b>Title</b>	Measuring Light Intensity Procedure	<b>Document ID</b>	AG-003	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Cultivation		Ken Ota, CEO		01/01/2016	

**7. References**

<b>Title</b>
MMMD Operations Manual

**8. Revision History**

<b>Rev.</b>	<b>Revision Date</b>	<b>Modified by</b>	<b>Description</b>
01	1/11/16	Gina Crosley-Corcoran	Added ExpressTrain Module

**Question 6 Merit Criteria Response**

Maui Medical Marijuana Dispensary, LLC shall comply with all criminal background check requirements pursuant to HAR §11-850-17 and HRS §§329D-7, 329D-12, and 846-2.7. Additionally, MMMD has created Standard Operating Procedures (SOP's) to ensure the reputable and responsible character and fitness of all future owners, employees, subcontractors and their employees, and prospective employees. Furthermore, the standards at a minimum, shall exclude from employment, any person convicted of a felony, or convicted of any crime involving drug possession or distribution, violence, firearms, theft or fraud, or any crime involving a risk to public safety, health, and welfare.

MMMD shall conduct background checks internally according to standard operating procedures, as well as pursuant to HAR §11-850-17(a). All MMMD officers, directors, shareholders with at least twenty-five percent ownership interest or more, members, and managers, each employee of MMMD production centers and retail dispensing locations shall be subject to providing information for internal and Departmental background checks. Additionally, any person permitted to enter or remain in MMMD dispensary facilities pursuant to HRS §§329D-6, 329D-15 (a)(4), and 329D-16 (a)(3) shall be subject to criminal background checks.

The following owners (O) consultants (C) employees (E) of MMMD have submitted a search on the Hawaii Adult Criminal Information (eCrim) records system. Below are the results. See Addenda for secure eCrim Certified Records for each owner/agent.

<b>Name</b>	<b>Date</b>	<b>Validation Code</b>	<b>Results</b>	<b>O, E,</b>
Shep Gordon	██████████	██████████	██████████	█
Anthony Takitani	██████████	██████████	██████████	█
Ken Ota	██████████	██████████	██████████	█
Howard Takishita	██████████	██████████	██████████	█
Russell Yamane	██████████	██████████	██████████	█
Ashley Takitani	██████████	██████████	██████████	█

**Question 6 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

<b>Name</b>	<b>Date</b>	<b>Validation Code</b>	<b>Results</b>	<b>O, E,</b>
Dustin Shroyer	████████	████████	████████	█
Dr. Daniel Lohse	████████	████████	████████	█
Gina Crosley-Corcoran	████████	████████	████████	█
Bradley Vallerius	████████	████████	████████	█
Timothy Sutton	████████	████████	████████	█
Dr. Howard Pressman	████████	████████	████████	█
Timothy McGraw	████████	████████	████████	█

The MMMD owner, consultant, or employee undergoing the background check shall provide written consent and all applicable processing fees to the department and to MMMD to conduct the background checks pursuant to HAR §11-850-17(c) and internal SOPs.

Any future MMMD owner, consultant and employee shall be subject to internal and external background checks pursuant to HAR §11-850-17(a). If they have a felony conviction, or if they do not meet the requirements according to HAR §11-850-17, that individual shall be disqualified from entering MMMD production centers and retail dispensaries, and additionally be prohibited from having any responsibility for operating a dispensary.

Prospective MMMD owners, consultants and employees shall be disqualified if that person has a conviction related to use, possession, or distribution of drugs or intoxicating compounds, a conviction for a crime involving violence, a conviction for a crime involving a firearm, and any conviction for a crime involving theft, or business or commercial fraud. Additionally, any other background history that MMMD or the Department finds would pose a risk to the health, safety, or welfare of the public or a qualifying patient will disqualify any future owners, subcontractors or consultants, considering the nature of the offense, the time elapsed since the offense occurred, and evidence of rehabilitation. MMMD will exceed the Department’s minimum background check requirements and disqualifications by internally verifying reputable

**Question 6 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

and responsible character, such as checking county and federal criminal records, civil records, and pertinent Internet websites. (See Addenda: Background Check SOP.)

MMMD shall conduct timely and compliant internal and state criminal background checks according to MMMD's standard operating procedures. MMMD SOP's include written policies and procedures on conducting and maintaining current background checks on all of the persons listed in HAR §11-850-17(a) which shall include, but not be limited to, notifying the Department immediately of any conviction for an offense listed in HAR §11-850-17(b). All personnel will be informed they are required to report any arrest to their manager within 3 days after the arrest; MMMD reserves the right to terminate employment.

MMMD's Director of Security shall conduct all necessary internal background checks. Each individual requiring internal background screenings shall be required to provide pertinent information and their signature authorizing MMMD, or appropriate authority to conduct background checks. The internal authorization form will not expire for the term of employment, or contract employment, and will serve as authorization until such relationship is terminated. MMMD is committed to being compliant with the Fair Credit Reporting Act, and will ensure to receive individual consent prior to background screenings, and provide the reason for the screenings to the employee via written forms. Pursuant to 15 U.S.C. §1681k (a)(1), in the event an individual suffers from a rescinded employment offer, termination of employment, or any adverse effect takes place, MMMD will provide the individual with a copy of the report, and provide individuals with the opportunity to dispute the information contained within the report before making a final adverse decision. In conclusion, MMMD has established and implemented comprehensive internal criminal background check standard operating procedures in order to mitigate any risk to the health, safety, or welfare of the public.

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

**Question 6 Addenda**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Table of Contents**

---

<b>e-Crim Certified Reports.....</b>	<b>2</b>
Ken Ota .....	2
Shep Gordon .....	3
Tony Takitani.....	4
Howard Takishita .....	5
Ashley Takitani Leahey .....	6
Russell Yamane .....	7
Dustin Shroyer .....	8
Daniel Lohse .....	9
Timothy Sutton .....	10
Gina Crosley-Corcoran .....	11
Bradley Vallerius .....	12
Dr. Howard Pressman.....	13
Timothy McGraw .....	14
<b>Fingerprinting Response from HCJDC.....</b>	<b>15</b>
<b>Background Check SOP .....</b>	<b>16</b>





























<b>Title</b>	Background Checks	<b>Document ID</b>	SP-029	<b>Rev.</b>	01
<b>Function</b>		<b>Approved by</b>		<b>Date</b>	
Security		Ken Ota, CEO		01/17/2016	

**1. Purpose/Objective**

The purpose of this SOP is to establish procedure for conducting and maintaining current background checks on those required by HAR §11-850-17(a).

**2. Scope**

This procedure applies to:

- 2.1 Dispensary licensee;
- 2.2 All officers, directors, shareholders with at least twenty-five percent ownership interest or more, members, and managers of an entity licensee;
- 2.3 Each employee of a dispensary;
- 2.4 Each subcontractor of a dispensary;
- 2.5 All officers, directors, shareholders with at least twenty-five percent ownership interest or more, members and managers of a subcontracted production center or retail dispensing location;
- 2.6 Each employee of a subcontracted production center or retail dispensing location;
- 2.7 Any person permitted to enter or remain in dispensary facilities pursuant to sections 329D-6, 329D-15 (a) (4), and 329D-16 (a) (3), HRS; and
- 2.8 Agents of any of the above persons.

**3. Background**

As a condition of licensure to operate a dispensary, current background checks must be maintained for compliance. MMMD will consider background checks no older than 12 months as current unless determined otherwise by the Department.

**4. Responsibilities**

All dispensary managers are responsible for ensuring that new hires are informed that they must inform their manager within 3 days if they are ever arrested. Employees are responsible for reporting to management. The Director of Security will ensure these reports are forwarded to the Department if required and will ensure annual background checks are conducted as required.

**5. Procedure**

- 5.1 Each person requiring background checks will provide pertinent information to conduct a background check and with their signature will authorize MMMD to conduct background

<b>Title</b>	Background Checks	<b>Document ID</b>	SP-029	<b>Rev.</b>	01
<b>Function</b>		<b>Approved by</b>		<b>Date</b>	
Security		Ken Ota, CEO		01/17/2016	

checks. The authorization form will not expire for the term of employment or contract employment and will serve as authorization until such relationship is terminated.

- 5.2 All personnel will be informed they are required to report any arrest to their manager within 3 days after their arrest or their employment or contracted employment may be terminated.
  - 5.2.1 All reported arrests will be reviewed by the Director of Security to determine whether or not the Department must be notified.
  - 5.2.2 If it is determined that the arrest is for a criminal act that requires reporting to the Department, the Director of Security will ensure the Department is notified in a manner determined as appropriate by the Department.
- 5.3 The HR Manager of the dispensary will provide a list of personnel who need to have background checks conducted no later than 10 months after the current background check on file was conducted. This will allow 60 days for a background check to be conducted and placed on file as an annual requirement.
- 5.4 Contractors and vendors will conduct background checks on their employees requesting access to the dispensary facilities as a condition of their contracts and will provide them on an annual basis.
- 5.5 Upon receipt of notice of the need to conduct background checks, the Director of Security will ensure these background checks are conducted and sent to the HR Manager for inclusion in employee files.
  - 5.5.1 The Director of Security or his designee will conduct the background checks.
  - 5.5.2 Any revelation of convictions requiring reporting to the Department will be reported.

**6. Prerequisites**

Authorization to Conduct Background Check form

**7. References**

<b>Title of Document</b>
Background Checks
Maui Medical Marijuana Dispensary, LLC Operations Manual
Security Requirements

**Question 7 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

Maui Medical Marijuana Dispensary, LLC (MMMD) will use BioTrackTHC, or a comparable approved system, to perform electronic tracking of cannabis products inventory, patient registration, and tracking of patient sales limits pursuant to HRS §329D-13. Ken Ota, founding member and CEO of MMMD, owns and operates Pacific Pipe Company, which utilizes accurate tracking and inventory procedures to ensure timely delivery of products to contractors, making Pacific Pipe one of the largest, most successful pipe suppliers in Hawaii. MMMD has also contracted Revolution Managed Services (RMS), which possesses substantial experience managing cannabis inventory and sales using BioTrackTHC, the Department’s selected computer software tracking system. BioTrackTHC will enable MMMD to submit real-time information about inventory and patient purchases to the Department as required by HRS §329D-6(k). All operational areas containing medical cannabis in MMMD’s Production Centers and Retail Dispensaries will be under constant video surveillance, and live access and archived footage will be available to the Department on request, as required by HAR 11-850-51(a)(1)(F).

MMMD will use BioTrackTHC to track each cannabis plant from its genesis as a seed or cutting until harvested as a batch with plants of a similar strain. Agents will add new plants to the BioTrackTHC inventory system, through the “new plant” shortcut button under the “growhouse” tab (See Addenda: BioTrack Screenshots). MMMD categorizes new plants by source, strain, quantity, birthdate, and location within its Production Centers. After a seed or clone has rooted and survived to vegetative stage, it will be moved into a vegetative room, and the change of physical location and status will be recorded into BioTrackTHC. Each plant will receive a unique identification number and barcode tag at this time, enabling electronic tracking of each plant’s location, status, and other vital attributes throughout its life cycle. When a plant becomes ready

**Question 7 Merit Criteria Response**

to flower, it will be transferred into a flowering room, and its change of location will be recorded in BioTrackTHC.

When a group of plants is harvested, they become a batch. The batch will be weighed and recorded into BioTrackTHC. To mitigate loss and diversion, any accumulated cannabis waste will be weighed, recorded, and segregated. BioTrackTHC will assign a unique batch number to each batch of cannabis inflorescence, then will record information to reflect the batch's change in physical location from a flowering room to a humidity-controlled drying room. In the drying room, cannabis inflorescence will be dried to achieve appropriate moisture content.

After a batch has dried long enough to reach appropriate moisture content, small leaves will be removed through dry trimming. The weights of the trimmed cannabis inflorescence, trimmings, and waste will be recorded into BioTrackTHC. Cannabis inflorescence and trimmings will be stored separately in humidity-controlled curing buckets within restricted curing rooms, and their change in location will be recorded in BioTrackTHC. Harvesting and processing operations shall be performed under video surveillance and overseen by a compliance manager, who will be trained to prevent and detect theft and diversion.

A random sample from each batch will be chosen by a certified independent laboratory in order to test the batch for cannabinoid content, microbiologicals, mycotoxins, and pesticides. BioTrackTHC assigns a unique sample ID number to each random sample, which is used to track the chain of custody of the sample during transfer to the independent lab, and to correctly identify the results of each batch test. After a sample has passed all required testing, the conforming test results and its correlating batch number will be printed on product labels and affixed to packaging containers. Cannabis packages prepared for shipment will be sealed with tamper-proof-tape, and will either be transferred to the secured storage vault, or be securely

### Question 7 Merit Criteria Response

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

transported to an MMMD Retail Dispensary location. During this process, the change in product location will be recorded in BioTrackTHC to document chain of custody.

If a testing laboratory's certificate of analysis for a batch does not conform to the testing requirements of HAR §10-850-85, then MMMD shall quarantine the batch. The batch will remain in quarantine until it is reworked to conform, re-tested to pass testing, or destroyed.

Pursuant to HAR §11-850-33, MMMD will not transport medical cannabis products from its Production Centers to its Retail Dispensing locations until approved to possess and dispense within its Retail Dispensaries. Final packaged product will be securely transported within a secure transport vehicle, with the product being accompanied by two dispensary agents. Additionally, record of clear and unbroken chain of custody will be recorded using BioTrackTHC, as required by HAR §11-850-61.

MMMD will use a transportation manifest to ensure integrity in the chain of custody of cannabis products. Required entries for creating shipping manifests in BioTrackTHC include administrative users, transport agents, and transport vehicle information. Additionally, the printed shipping manifest page contains pertinent chain of custody information including, but not limited to, date and time information, contact information, origin and designation information, transport agent information, barcode and batch information, and number, size and quantity information. The shipping manifest will require signatures of the shipper and receiver upon transfer of custody of a shipment to the Retail Dispensary, while recording the transfer on video surveillance (See Addenda: Tracking SOPs).

Two members from MMMD's compliance team will check each manifest as the dispensary order as it filled, which will take place within the Production Centers' secured storage area under video surveillance. The following is an example of how MMMD will maintain



**Question 7 Merit Criteria Response**

MMMD’s retail dispensaries will use BioTrackTHC to handle registration of new patients, check-in of existing patients, query of patient and product information, and tracking of inventory and sales limits to qualifying patients, pursuant to HRS §329D-6. MMMD’s Retail Dispensaries will be able to register a new patient by scanning the qualified patient’s driver’s license and the unique bar code on the qualifying patient’s medical cannabis ID card. After confirming the qualifying patient’s identity, the Retail Dispensary agent will enter the patient’s required information into BioTrackTHC.

During the registration process, a Retail Dispensary agent will track information using BioTrackTHC, including the purchase limit of four ounces of cannabis during a fifteen consecutive day period, or eight ounces of cannabis during a thirty-day consecutive day period, as per section HRS §329-D-7(A) and (B). A Retail Dispensary agent will use BioTrackTHC to identify and track the last place and time a qualified patient purchased medical cannabis toward their sales limit, as well as the quantity remaining for the period, ensuring that no sales are authorized in excess legal limits, as found in HRS §329-D.

MMMD will utilize their comprehensive Standard Operating Procedures to train Retail Dispensary agents to identify any fraudulent, or unlawful, attempts to procure medical cannabis products from its Retail Dispensary locations. If a Retail Dispensary agent suspects fraudulent activity, the agent must report the incident to the Retail Dispensary manager. The Retail Dispensary manager will then either request additional identification, verify registration status by calling the Department of Health, or contact local Law Enforcement if necessary.

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

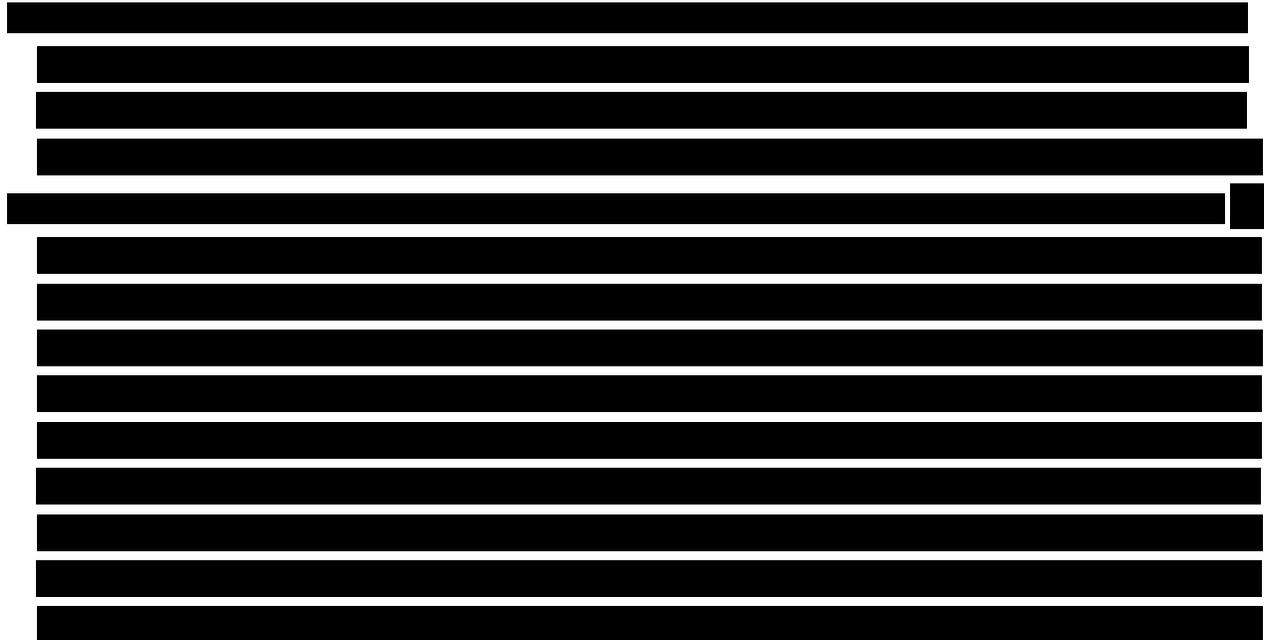
**Question 7 Addenda**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Table of Contents**

---

<b>BioTrackTHC Screenshots .....</b>	<b>2</b>
Add Vendor .....	2
Creating Manifest .....	2
Customer Lookup .....	3
Growhouse .....	3
New Plant Creation .....	4
Patient Additional Information .....	4
Patient Basic Information .....	5
Preferred Vendor List .....	5
Purchase Limit .....	6
Return Manifest .....	6



# Question 7 Addenda Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

## BioTrackTHC Screenshots

### Add Vendor

### Creating Manifest

Item	Strain	Type	Available	Status	Product
<input type="checkbox"/> Usable Marijuana					
<input type="checkbox"/> 9634 5454 1971 5172	Alien Rock Candy	Usable Marijuana	112.00		Alien Rock Candy (1g.)
<input type="checkbox"/> 5871 6261 9164 7495	Alien Rock Candy	Usable Marijuana	112.00		Alien Rock Candy (1g.)
<input type="checkbox"/> 5842 0903 1029 0622	Alien Rock Candy	Usable Marijuana	112.00		Alien Rock Candy (1g.)
<input type="checkbox"/> 4557 0728 8741 1574	Alien Rock Candy	Usable Marijuana	112.00		Alien Rock Candy (1g.)
<input type="checkbox"/> 3013 9862 1394 9302	Alien Rock Candy	Usable Marijuana	112.00		Alien Rock Candy (1g.)
<input type="checkbox"/> 2588 1341 4260 9165	Blue Cheese	Usable Marijuana	32.00		Blue Cheese (1/8)
<input type="checkbox"/> 0098 8151 3547 8392	Blue Cheese	Usable Marijuana	32.00		Blue Cheese (1/8)
<input type="checkbox"/> 9077 0274 2801 1339	Blue Cheese	Usable Marijuana	32.00		Blue Cheese (1/8)
<input type="checkbox"/> 7141 9056 5313 3525	Blue Cheese	Usable Marijuana	32.00		Blue Cheese (1/8)
<input type="checkbox"/> 5626 8111 4776 3386	Blue Cheese	Usable Marijuana	64.00		Blue Cheese (1/8)

# Question 7 Addenda

## Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

### Customer Lookup

This will then present the Customer Lookup screen, seen partially below:

The screenshot shows a 'Customers' window with a 'New Customer' tab. It features a search bar and a form with the following fields:

Last	FooBar10	First	FooBar10
Middle	Middle	Phone	303-222-3343
Birthday	5 / 8 / 1970	Email	me11@myisp.com
Cell	555-555-5555	Carrier	ATT
MMJ Card	MMR1	Exp	10 / 15 / 2011
DL #	F0000000000	Exp	01 / 2015
Referral	Friend	Member	Non-Member
Discount		Since	7 / 1 / 2011

### Growhouse

The screenshot shows the 'Growhouse' software interface. It includes a menu bar (File, Growhouse, Inventory, Sales, Options, Compliance, Marketing, Banking, Administration, Help) and a toolbar with 'Zoom In', 'Zoom Out', and 'Refresh' buttons. The main area is a grid with columns A-Z and rows 1-18, containing green plant icons. A 'Shortcuts' panel on the right includes 'New Plant', 'Strains', 'Containers', 'Collect Waste', 'Plant Audit', and 'Search'. Below this is a 'Stat Strain Rate' table.

Count	Strain
307	Blue Cheese
291	Gorrilla Glue #4-1
278	Gorrilla Glue #4
260	Lemon Sour Dies
217	Blue Dream
215	Alien Rock Candy
209	Revolution 1
185	Bubba Diesel
174	Doc's OG
159	Strawberry Coug
149	Torra Bora
129	Revolution Kush
128	Charlotte's Web
89	Super Lemon Ha
2	C4 X GSC
346	F12
122	Gorrilla Glue #4
54	Blue Dream
38	Torra Bora
38	Doc's OG
35	Lemon Sour Dies

# Question 7 Addenda

## Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

### New Plant Creation

The screenshot shows a web application window titled 'New Plant Creation'. The main interface includes a navigation menu with 'Inventory Reports Messages Timeclock', a search bar, and a 'Shortcuts' panel with icons for 'New Plant', 'Strains', 'Containers', 'Collect Waste', 'Plant Audit', and 'Search'. A 'Stat Strain Rate' table is visible on the right. A 'New Plant' dialog box is open in the center, showing fields for Source (Clone), Strain (CBD OG), Quantity (1), Group (No Group), Birthdate (01/18/2016), Room (VEG 2A), and Table. It also includes checkboxes for 'Mother Plant' and 'Print Barcode', and 'Cancel' and 'OK' buttons.

Stat	Strain	Rate
Total Plants		2805
Mothers		34
Growing		1983
Drying		787
Growing		
Germination		0
Seedling		0
Vegetative		809
Pre-Flowering		346
Flowering		828
Harvesting		0

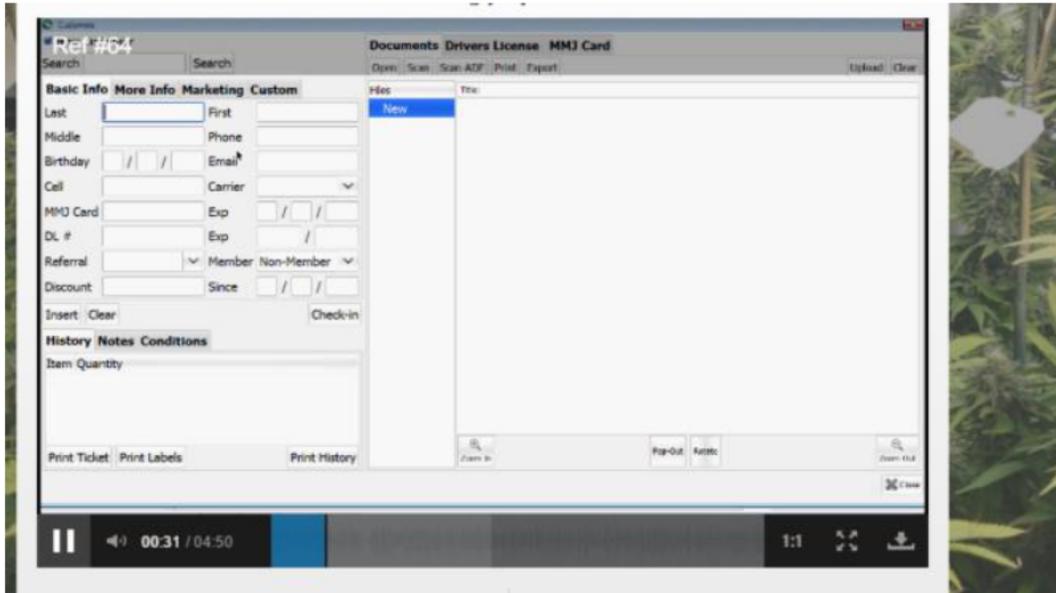
### Patient Additional Information

The screenshot shows a 'Recording playback' window. The main interface includes a search bar, a 'Basic Info' section with fields for Address, City, State, Zip, Plants, Location (Sunny side Dr), and Limit. There are also buttons for 'Insert', 'Clear', 'Check-in', 'Print Ticket', 'Print Labels', and 'Print History'. A video player interface is visible at the bottom, showing a progress bar at 00:33 / 04:50 and social media sharing options for Facebook, Twitter, G+, and YouTube.

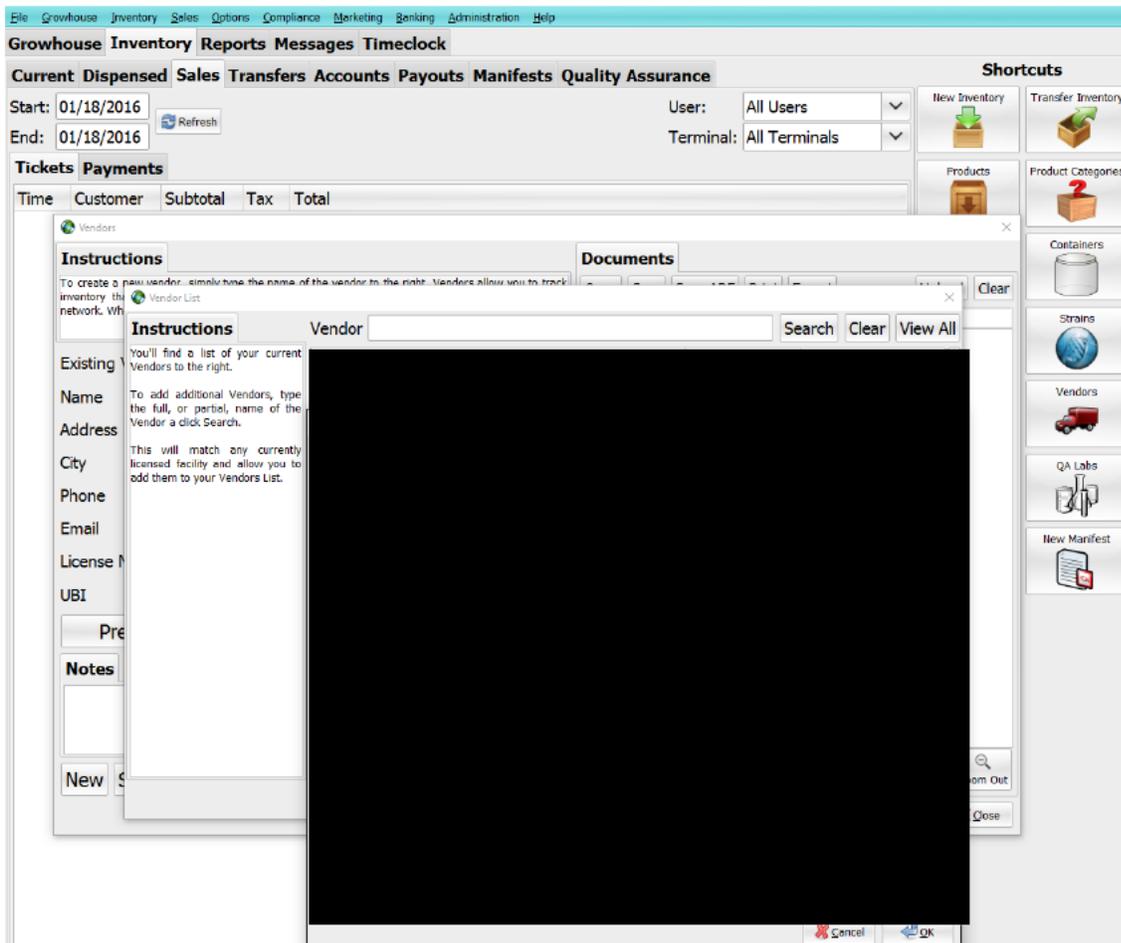
# Question 7 Addenda

## Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

### Patient Basic Information



### Preferred Vendor List



# Question 7 Addenda

## Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

### Purchase Limit

FOR CLERK, THE NEW LIMIT IS ONLY USED AS THE DEFERENTIAL THRESHOLD FOR YOUR CATCH.

#### More Info

This tab contains additional customer information including the customer's address, city, state (or province) and zip code (or postal code).

If you are in a jurisdiction that tracks plant counts to customers, you will also see a plant count textbox (that defaults to 6).

The Location drop-down will default to the current location, but if you have multiple dispensary locations on one system you can switch this to whatever location you need to.

### Return Manifest

**Transport Manifest**

**Pick-Up Manifest**

**Instructions**

To create a new manifest log chose 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.

**Step 1**

Departure: ACE Delavan, 01/19/2016 6:06:02 PM

Arrival: 01/19/2016 6:36:02 PM

Route:

\* These directions are for planning purposes only. You may find that the suggested route takes you outside the State of Illinois; you must plan your route so that you remain within the State of Illinois at all times.

Item	Strain	Type	Available	Status	Product

Generate Employee [ ] Employee #2 [ ] Vehicle [ ]

Add Vendor Employee Add Vendor Vehicle



























































### Question 8 Merit Criteria Response

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

Maui Medical Marijuana Dispensary, LLC shall maintain and protect confidentiality of all patient's Protected Health Information (PHI) through environmental and administrative controls, and proper employee training utilizing MMMD Standard Operating Procedures that are modeled after HIPAA standards defined under 45 CFR §160.103 and Section D of the HITECH Act of 2009. The patient's confidential information, health conditions, and medical cannabis purchases shall be protected from the point of entering the Retail Dispensaries through final sale and HIPAA-compliant storage of records.

Medical cannabis patients visiting the Retail Dispensing locations shall enter through a secure door where they will be greeted by trained security personnel. There, the qualified patient's state-issued identification or medical cannabis registry card shall be verified and securely logged. MMMD shall only require minimal personal information on the sign-in sheet. Once logged, the qualified patient shall enter a waiting room until the patient's registry number is called. Patients will have the option of a consultation with a Retail Dispensary agent within a private consultation room. The patient will then proceed into the restricted dispensing area to purchase medical cannabis product (See Addenda: Retail Dispensary Layouts, Dispensing Cannabis SOP, Patient Identification SOP).

At no time shall the Retail Dispensary agent share or openly discuss any patient's qualifying condition, health status, or medical cannabis purchase with other patients or contractors present, and the agent shall take care when conversing with a patient or discussing a patient on the phone. MMMD shall require that all Retail Dispensary agents who come into contact with Protected Health Information (PHI) shall take HIPAA training and certification, and shall maintain HIPAA certification for the duration of their employment (See Addenda: HIPAA Training SOP).

**Question 8 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

MMMD shall also provide training, upon hire and annually, to all employees pursuant to HAR §11-850-34 "Dispensary Employees" of Hawai'i Medical Marijuana Dispensary Administrative Rules. No Retail Dispensary agent shall access protected health information unless specifically authorized to do so.

MMMD shall ensure that the eighteen elements of PHI are securely stored in accordance with 45 CFR Part 164, Subpart C - Security Standards for the Protection of Electronic Protected Health Information. MMMD's Compliance Officer shall maintain the organization's HIPAA Privacy and Security documentation.

In instances where patient records are maintained, MMMD shall de-identify all PHI, when applicable. If PHI is required for record-keeping purposes, storage of files occurs within password-protected (with biometrics) computers in a safe and secure lock-and-key office. Any transmission of PHI data (facsimile, e-mail, text, etc.) is always communicated with encryption. In addition, no data or records shall be released without the written consent of a patient with the authorization to release medical information. Company policy shall state that no licensed Retail Dispensary agent or Business Associates shall be permitted to disclose any activity relating to patients or the dispensing of medical cannabis on any social media platform, or discuss such topics with family or friends. Additionally, MMMD will prohibit photography or video recording inside the retail dispensaries by anyone other than the dispensary licensee, the Department, law enforcement personnel or persons approved in writing by the Department.

Agents shall discuss and access only the minimum amount of PHI to accomplish the purpose of counseling the patient on medical cannabis or activities related to dispensing medical cannabis. Retail Dispensary agents and Business Associates may not discuss or store any PHI on personal, non-secure devices such as phones, computers, or tablets. Employees shall be trained

**Question 8 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

on the protocol for breaches in privacy, including the Breach Notification Rule, risk assessment, sanctions, fines, disciplinary action, and exemptions.

MMMD shall identify all Business Associates who may reasonably come into contact with PHI and shall have all such organizations sign a Business Associates Agreement to ensure that they are HIPAA-compliant and are using proper safeguards to protect PHI.

Sales of medical cannabis to qualifying patients shall be recorded in BioTrackTHC, the Hawai'i-approved medical cannabis computer software tracking system, which maintains patient registry data, and confidential Point-of-Sale customer information on the MMMD's own SSAE 16 certified, Open-IX, HIPAA-compliant data centers. In this system, only licensed and authorized Retail Dispensary agents can access customer information using a unique employee PIN or biometric fingerprint scan. MMMD's partner, Revolution Managed Services (RMS), successfully utilizes BioTrackTHC for its Illinois-licensed medical cannabis cultivation, processing and manufacturing facilities and is experienced with the high level of patient confidentiality offered by this tracking system.

Prior to opening or operating the Retail Dispensary location, MMMD shall conduct a HIPAA Security Risk Assessment offered by the United States Department of Health and Human Services Information Technology Security Risk Assessment Tool (Found at: <https://www.healthit.gov/providers-professionals/security-risk-assessment>.) Security plans for the protection of electronic PHI shall be detailed in the Security Plan (See Addenda: IT Security Plan). MMMD shall conduct a Security Risk Assessment annually prior to the anniversary of the licensure date to ensure compliance & patient confidentiality procedures are current and maintained.

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

**Question 8 Appendix**  
**Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County**

---

**Table of Contents**

---

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Patient Identification .....	5
HIPAA Privacy and Security.....	8
Dispensing Cannabis .....	11









<b>Title</b>	Customer/Patient Identification	<b>Document ID</b>	RTL-035	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Retail		Ken Ota, CEO		1/2/2016	

**1. Purpose/Objective**

This Procedure will describe how the Security Staff will confirm that patients entering the Retail Dispensing Location are permitted to enter.

**2. Scope**

This Procedure will be used in the Security Vestibule (man trap where applicable).

**3. Background**

This procedure will ensure that no one is permitted to enter the Dispensing Location that is not specifically Registered by the State. Patients are required to present a valid form of government issued photo Identification, as well as their State issued Registration Card to gain entry to the Dispensing Location. No alternate documents or permissions will ever be accepted.

**4. Responsibilities**

The Security manager will ensure that all security Agents under his control are familiar with this procedure and that it is followed at all times.

**5. Procedure**

STEP 1: Patients wishing to gain entry to the Dispensing Location will first be observed by the 24-hour video surveillance system as they enter the property and as they approach the front door.

STEP 2: Once inside, Patients should be greeted and asked to present an approved, valid form of government issued photo Identification as well as their Registration Card. If either of these items cannot be produced or cannot be authenticated, they will not be allowed to enter the Dispensing Location.

STEP 3: Once both documents have been inspected and deemed authentic, using the Valid Identification Documents Job Aid, the Patient will sign the Entry Log and be granted access to the Waiting Area of the Dispensing Location.

**6. Prerequisites**

Valid Identification Documents Job Aid, Entry Log

<b>Title</b>	Customer/Patient Identification	<b>Document ID</b>	RTL-035	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Retail		Ken Ota, CEO		1/2/2016	

**7. References**

<b>Title of Document</b>
Valid Identification Documents Job Aid
Maui Medical Marijuana Dispensary, LLC Employee Manual
Retail Dispensing Operations Manual

**8. Revision History**

<b>Rev.</b>	<b>Revision Date</b>	<b>Modified by</b>	<b>Reason for Modification</b>
01	1/9/2016	Gina Crosley-Corcoran, MPH	Added new format.

<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

**1. Purpose/Objective**

The purpose of this procedure is to train employees on the essential elements of maintaining the privacy and security of sensitive information and protected health information (PHI) pursuant to the United States Health Insurance Portability and Accountability Act.

**2. Scope**

This procedure applies to all employees that come into contact with Protected Health Information (PHI).

**3. Background**

Protecting patient privacy and confidentiality is of utmost importance to any organization that works with patient consumers in any manner. Employees must understand their role in protecting patient confidentiality, as well as the administrative, technical, and security procedures required for maintaining private patient records.

**4. Responsibilities**

Dispensary managers are responsible for ensuring that new hires are trained on HIPAA before coming into contact with patients or PHI. Employees are responsible for carrying out HIPAA procedures.

**5. Procedure**

**5.1 What is HIPAA**

5.1.1 History of the Health Insurance Portability and Accountability Act

- What does HIPAA do?
- What does HIPAA Protect?

5.1.2 HITECH Act

- HIPAA Privacy Rule
- HIPAA Security Rule

5.1.3 Protected Health Information

- Printed
- Spoken
- Electronic

5.1.4 Definition of Protected Health Information (PHI)

<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

**5.1.5 Examples of PHI**

- Names
- Geographic identifiers
- All elements of dates such as birth date, admission date, discharge date, etc.
- Phone numbers
- Fax Numbers
- Email addresses
- Social security numbers
- Medical records numbers
- Health plan beneficiaries' numbers
- Account numbers
- Certificate license numbers
- Vehicle identification numbers
- Device identifiers and serial numbers
- Web Universal Resource Locators (URLS)
- Internet Protocol (IP) addresses
- Biometric Identifiers such as fingerprints
- Full face photographic images
- Any other unique identifier such as a code or characteristic

**5.2 HIPAA Violations**

5.2.1 Unauthorized Access to PHI

5.2.2 Breaches in privacy protocol

5.2.3 Penalties for Breaches

- Civil penalties
- Criminal penalties

5.2.4 Breach notification requirements

**5.3 HIPAA Privacy Rule**

5.3.1 Individual Patient Rights

5.3.2 "Minimum Necessary" Information

5.3.3 Research Data

5.3.4 Marketing and Fundraising Data

5.3.5 Business Associates

**5.4 Disclosure of PHI**

<b>Title</b>	HIPPA, Privacy & Security Training	<b>Document ID</b>	HR-010	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Administrative		Ken Ota, CEO		1/2/2016	

5.4.1 Permitted use

5.4.2 Non-permitted disclosure

**5.5 HIPAA Security Rule**

5.5.1 Confidentiality, Availability, and Integrity of Data

5.5.2 Security Standards and Safeguards

- Malicious software
- File Sharing
- Mobile Devices
- Password Management
- Data encryption
- Disposal of Data and Devices containing PHI
- Physical Security of Data

**6. Prerequisites**

None.

**7. References**

Title of Document
HIPPA Training Courses
Maui Medical Marijuana Dispensary, LLC Employee Manual
Retail Dispensing Operations Manual

**8. Revision History**

Rev.	Revision Date	Modified by	Reason for Modification
01	1/9/2016	Gina Crosley-Corcoran, MPH	Added new format.

<b>Title</b>	Dispensing Process	<b>Document ID</b>	RTL-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Retail		Ken Ota, CEO		1/2/2016	

**1. Purpose/Objective**

This procedure will describe the process of dispensing marijuana or manufactured marijuana products to patients inside of our Retail Dispensing Locations.

**2. Scope**

This process will take place within the Retail Dispensing Locations.

**3. Background**

This procedure will ensure that all safe handling practices are followed as required by the Department.

**4. Responsibilities**

The Dispensary Manager is ultimately responsible for the execution and oversight of this procedure. Dispensary Agents will use this procedure on a daily basis.

**5. Procedure**

STEP 1: Patients will inform the Dispensary Agent assisting them, which individually packaged items they would like to purchase.

STEP 2: The Dispensary Agent will enter the Patients' Registered ID number into the POS system to initiate a sale.

STEP 3: The Dispensary Agent will collect the required items from the Dispensary safe, subtract them from the Dispensary Safe Inventory list and place them in a sales bag.

STEP 4: The Dispensary Agent will scan the bar codes of all items selected for purchase by the patient.

STEP 5: The POS system will inform BioTrack that these items have been selected for purchase by the qualifying patient whose ID number initiated the sales transaction.

STEP 6: The Dispensary Agent will await confirmation from BioTrack that this patient is authorized to purchase the selected items.

STEP 7: The POS system will add all applicable taxes and provide a grand total for collection.

<b>Title</b>	Dispensing Process	<b>Document ID</b>	RTL-014	<b>Rev.</b>	01
<b>Function</b>		<b>Approved By</b>		<b>Effective Date</b>	
Retail		Ken Ota, CEO		1/2/2016	

STEP 8: The Dispensary Agent will collect payment from the patient in the form of cash, or credit card.

STEP 9: All items purchased will be placed in a tamper evident bag and sealed.

STEP 10: Purchased products will be walked to the Security station and provided to the patient as they sign out of the facility.

## 6. Prerequisites

Retail Dispensing Location Operations Manual, Cash Drawer, POS Access

## 7. References

Title of Document
Retail Dispensing Location Operations Manual
Maui Medical Marijuana Dispensary, LLC Employee Manual
POS System Operations Manual

## 8. Revision History

Rev.	Revision Date	Modified by	Reason for Modification
01	1/9/2016	Gina Crosley-Corcoran, MPH	Added new format.

**Question 10 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

**Signage:** Maui Medical Marijuana Dispensary, LLC (MMMD) will uphold the signage rules of HAR §11-850-91 by using only one sign at each retail dispensary. MMMD does not plan to use a sign at its production center but reserves the right to install one at the entry gate of the perimeter fence if later needed. MMMD has searched the local ordinances and found no outdoor signage rules more restrictive than HAR §11-850-91, therefore any sign will be smaller than 1600 square inches and display only MMMD’s business name and no images (See Addenda: Retail Dispensary Signage Mockup.) MMMD will post a copy of its dispensary operating license in the retail dispensaries and production centers, required by HAR §11-850-32(c)(2), and a copy of other necessary state and county permits and licenses in the production center facilities, required by HAR §12-850-73(c). Inside the production centers and retail dispensaries, MMMD will post signs that provide necessary occupational safety, life safety, and restricted access notices following ADA, OSHA, and state law guidelines. (See Addenda: Production Center Signage.) Additionally, the retail dispensaries will post signs that provide vital health notices to registered patients. In keeping with the spirit of Hawaii law, MMMD will refrain from posting signs that show products or promotions.

**Packaging:** MMMD has chosen to work with Revolution Managed Services (RMS), which has experience managing safe, innovative packaging of medical cannabis in Illinois under rules similar to HAR §11-850-92(a). RMS provides expertise compiling and training employees to follow Standard Operating Procedures for packaging operations including safe handling, accurate weighing, analysis of moisture content, and optimum packing of products and shipping containers (See Addenda: Packaging SOP). With RMS’s guidance, MMMD has identified preferred container options for various unit sizes of cannabis and manufactured products it will produce in Hawaii (See Addenda: Medical Cannabis Containers). Before using any container,

**Question 10 Merit Criteria Response**

MMMD reviews Certificates of Compliance from the manufacturer or supplier to verify that the container is opaque, child resistant under ASTM standard D3475-12, and composed of non-toxic, food-safe materials that protect contents from contamination. MMMD ensures further quality and safety by performing packaging operations using specialized fixtures and equipment. Pursuant to HAR §11-850-92(a)(4), no manufactured cannabis product that is a single dose, serving, or single-wrapped item shall contain more than 10 mg of THC, and no containers of oil or manufactured cannabis products that are sold in a pack of multiple doses, servings or single wrapped items shall contain more than 100 mg of THC per container. Finally, after labeling, MMMD makes every product tamper-proof by adding a shrink band or safety seal to its container.

**Labeling:** MMMD has chosen to work with RMS, which has experience managing honest, accurate labeling of medical cannabis in Illinois under rules similar to HAR §11-850-92(b). MMMD will train its employees to follow Standard Operating Procedures for engaging the inventory management system, printing accurate chemical analysis information, and affixing labels cleanly onto containers (See Addenda: Labeling SOP). Every container will receive a label that is printed and applied by an agent who has been properly trained to incorporate correct data from MMMD’s inventory management system (BioTrackTHC), including details of the independent lab’s final certificate of analysis (See Addenda: Laboratory Certificates of Analysis).

MMMD has identified preferred labels, materials, printers, applicators, and other equipment to ensure labeling operations commence on schedule. MMMD’s labels show all information required by HAR §11-850-92(b) using only black letters on a white background with no images (See Addenda: Product Labels). MMMD’s labels will show additional pertinent

**Question 10 Merit Criteria Response**

Medical Marijuana Dispensary License Application – MMMD, LLC – Maui County

---

information including that a product's batch was tested on a specific date for purity from heavy metals, mycotoxins, microbiological agents, and pesticides. Labels of manufactured cannabis products will show the product's batch was tested to ensure residual solvent levels are within accepted standards. When necessary, MMMD will print the required warnings and disclosures of HAR §11-850-92(b)(8-10) and additional information on an insert placed inside the container.

**Chain of Custody:** MMMD is guided by RMS, which has experience ensuring chain of custody, integrity, and accountability in the production and sale of medical cannabis. MMMD can maintain clear, unbroken chain of custody records through all stages of production – from propagation to dry, trim, process, manufacture, packaging, disposal or destruction – and during transport of products to a dispensary or testing samples to an independent laboratory as required by HAR §11-850-61. In both production and retail, MMMD's video surveillance, access restrictions, and computer software tracking system (BiotrackTHC) function as the foundation of Chain of Custody. MMMD will assure accountability by controlling administrative privileges so that only authorized agents can enter data. When transporting products or lab samples, agents will use BioTrackTHC to print shipping manifests that list specific identifying information such as date, time, agent names, items being transferred, and unique batch or sample numbers. Standard Operating Procedures require two delivery agents and recipients to sign forms witnessing and verifying integrity of transfer, and to perform custody exchanges under video surveillance. All cannabis plants, products, and processes shall be monitored and recorded using video surveillance (See Addenda: Chain of Custody).

The following Addenda are provided as supporting documents in accordance with the "FAQs-for-MMJ-Dispensary-licensing-program-12-22-2015-005-FINAL.pdf" file found at <http://health.hawaii.gov/medicalmarijuana/>

**Q: Can I submit letters of support for my application, for example from community members and professionals?**

*A: You may submit information or documentation that you consider relevant in support of the representations you make in your application, but all materials in support of your application have to be submitted at the time you apply, and may not be submitted separately. Anything not received with your application will not be considered as part of your application. Information or documentation that is not specifically requested may or may not be considered in determining your qualification as an applicant. Letters of support may also be subject to public disclosure.*

**Q: What specific attachments will be required and/or allowed if any?**

*A: You may attach any supporting documents that support the information or representations you make in response to each criteria. The rules set out some of the documents that can be submitted in support of certain requirements. All information you provide or representations you make, including any attachments, will become conditions of a license if you are awarded a license.*

---

## Table of Contents

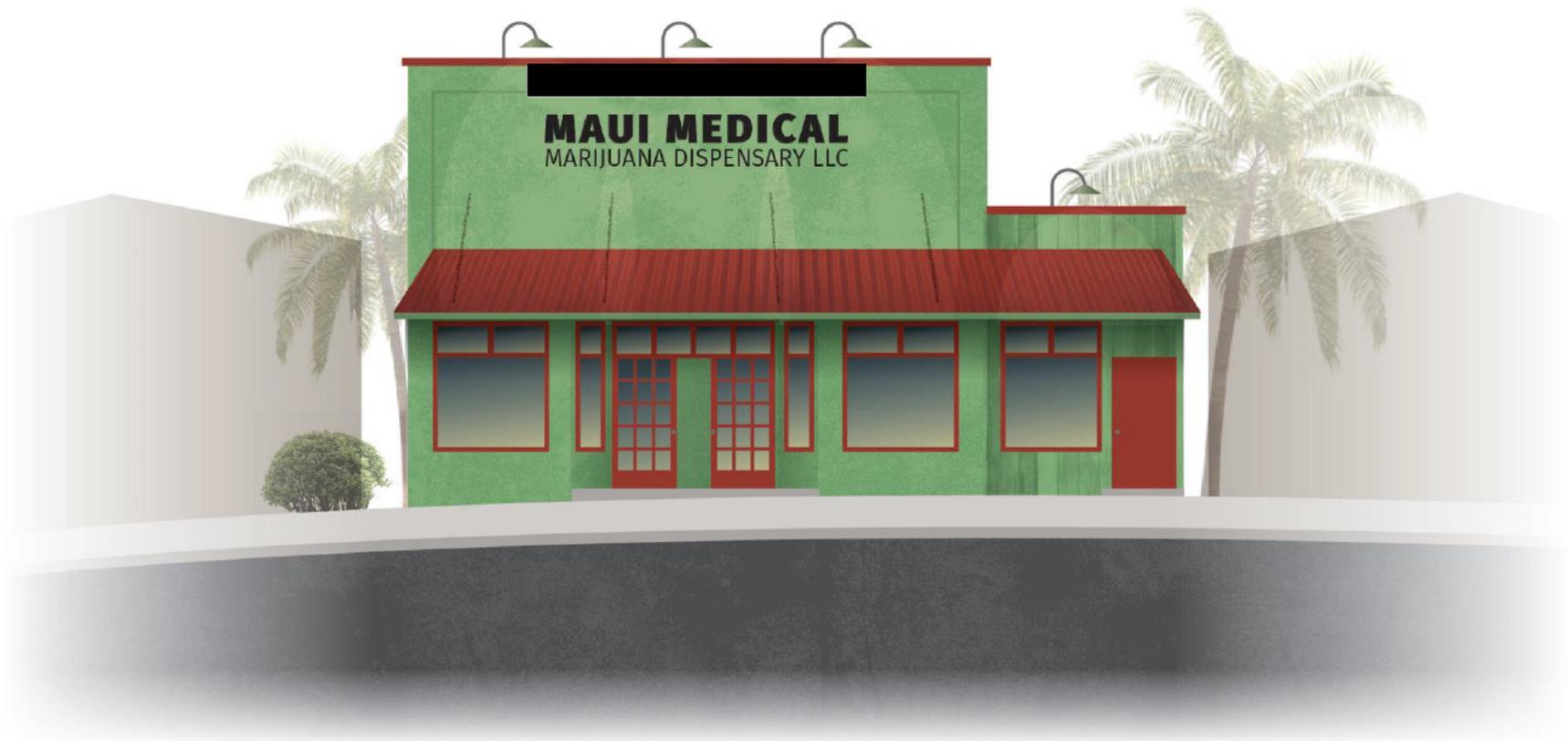
---

<b>Retail Dispensary Signage Mockup</b> .....	<b>2</b>
<b>Medical Cannabis Containers</b> .....	<b>3</b>
Cannabis Pistillate Inflorescence.....	3
Medical Cannabis Manufactured Products .....	3
<b>Medical Cannabis Label Mockups</b> .....	<b>5</b>
Cannabis Pistillate Inflorescence.....	5
Medical Cannabis Manufactured Product.....	5
<b>Labeled Medical Cannabis Containers</b> .....	<b>6</b>
<b>Certificates of Analysis</b> .....	<b>7</b>
Charlotte's Web .....	7
Tora Bora .....	8
Gorilla Glue .....	9
Doc's OG.....	10
Bubba Diesel .....	11
Revolution Kush 1.....	12
<b>Production Center Signs</b> .....	<b>13</b>
Nutrient Storage .....	13
Pesticide Storage .....	13
Emergency First Aid Kit .....	14
Spill Kit Station .....	14
Safety Data Sheets.....	15
Danger – Keep Out.....	15
Restricted Area – Fencing.....	16
Fire Extinguisher.....	16
Mother Room Genetics .....	17
Vegetative Room .....	17
Flowering Room .....	18
Pre-Testing Storage & Curing .....	18
<b>Labeling SOP</b> .....	<b>19</b>
<b>Packaging SOP</b> .....	<b>21</b>
<b>Shrink Wrap SOP</b> .....	<b>25</b>
<b>Boxing SOP</b> .....	<b>27</b>
<b>Chain of Custody SOP</b> .....	<b>29</b>

---

## Retail Dispensary Signage Mockup

---



---

## Medical Cannabis Containers

---

### Cannabis Pistillate Inflorescence



Size	Vendor	Certifications
1 Gram	Bureau	ASTM classification D3475-13 and D3475-14. Certified under CPSC product safety regulation 16 CFR Title 16 Part 1700.20.
3.5 Grams	Bureau	ASTM classification D3475-13 and D3475-14. Certified under CPSC product safety regulation 16 CFR Title 16 Part 1700.20.
7 Grams	Bottles.com	Certified under CPSC 16 CFR Title 16 Part 1700.20.
14 Grams	Bottles.com	Certified under CPSC 16 CFR Title 16 Part 1700.20.

## Medical Cannabis Manufactured Products

5 ml – Shatterz



3 ml – Concentratez



1ml – C-Ringe



Size	Vendor	Certifications
3ml- Child resistant <i>Concentratez</i> container	Earthwise Packaging	ASTM D3475-12 Certified under CPSC 16 CFR Title 16 Part 1700.20.
5ml- Child resistant <i>Shatterz</i> container	Earthwise Packaging	ASTM D3475-12 Certified under CPSC 16 CFR Title 16 Part 1700.20.
1ml- Child resistant <i>C-Ringe</i> container	Earthwise Packaging	ASTM D3475-12 Certified under CPSC 16 CFR Title 16 Part 1700.20.

# Medical Cannabis Label Mockups

## Cannabis Pistillate Inflorescence

<p><b>INSTRUCTIONS FOR USE</b> This container contains medical cannabis intended for consumption through baking or infusion into another form. Hawaii Department of Health warns against smoking, inhaling, or vaping medical cannabis.</p>	<p><b>MAUI MEDICAL</b> MARIJUANA DISPENSARY, LLC</p>	<p><b>PRODUCT INFORMATION</b></p>																				
<p><b>CAUTION</b> For medical use only. Not for resale or transfer to another person. This product may be unlawful outside of the State of Hawaii and is unlawful to possess or use under federal law.</p>	<p><b>Strain Name</b> Indica/Sativa/Hybrid</p>	<p>MFG ..... DATE TEST ..... DATE PCKG ..... DATE USE BY ..... DATE</p>																				
<p>This product has intoxicating effects and may be habit forming. Smoking is hazardous to your health. There may be health risks associated with consumption of this product. This product is not recommended for use by women who are pregnant or breast feeding. Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug. When eaten or swallowed, the effects of this drug may be delayed by two or more hours.</p>	<p><b>28.35g</b> Dried &amp; Cured 1oz Cannabis Inflorescence</p>	<p>Batch: 123456789</p>																				
	<p>CANNABINOID CONTENT</p>	<p><b>Tested By:</b> LAB NAME This product has passed all testing for microbiological, mycotoxins, and pesticides.</p>																				
	<table border="1"> <tr> <td>CBD</td> <td>.00%</td> <td>THC</td> <td>.00%</td> </tr> <tr> <td>CBDA</td> <td>.00%</td> <td>THCA</td> <td>.00%</td> </tr> <tr> <td>CBD</td> <td>.00%</td> <td><b>TOTALS</b></td> <td></td> </tr> <tr> <td>CNB</td> <td>.00%</td> <td>THC/THCA</td> <td>.00%</td> </tr> <tr> <td>CBC</td> <td>.00%</td> <td>Cannabinoids</td> <td>.00%</td> </tr> </table>	CBD	.00%	THC	.00%	CBDA	.00%	THCA	.00%	CBD	.00%	<b>TOTALS</b>		CNB	.00%	THC/THCA	.00%	CBC	.00%	Cannabinoids	.00%	<p>Produced by: <b>Maui Medical Marijuana Dispensary LLC</b> License #123456789</p>
CBD	.00%	THC	.00%																			
CBDA	.00%	THCA	.00%																			
CBD	.00%	<b>TOTALS</b>																				
CNB	.00%	THC/THCA	.00%																			
CBC	.00%	Cannabinoids	.00%																			

## Medical Cannabis Manufactured Product

<p><b>INSTRUCTIONS FOR USE</b> Swallow whole with water. Do not crush or chew capsules. May be repeated as needed or as directed by your doctor.</p>	<p><b>MAUI MEDICAL</b> MARIJUANA DISPENSARY, LLC</p>	<p><b>PRODUCT INFORMATION</b></p>																				
<p><b>CAUTION</b> For medical use only. Not for resale or transfer to another person. This product may be unlawful outside of the State of Hawaii and is unlawful to possess or use under federal law.</p>	<p><b>Strain Name</b> Indica/Sativa/Hybrid</p>	<p>MFG ..... DATE TEST ..... DATE PCKG ..... DATE USE BY ..... DATE</p>																				
<p>This product has intoxicating effects and may be habit forming. Smoking is hazardous to your health. There may be health risks associated with consumption of this product. This product is not recommended for use by women who are pregnant or breast feeding. Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug. When eaten or swallowed, the effects of this drug may be delayed by two or more hours.</p>	<p><b>##</b> MG THC # Individual Per Capsule Capsules</p>	<p>Batch: 123456789</p>																				
	<p>CANNABINOID CONTENT</p>	<p><b>Tested By:</b> LAB NAME This product has passed all testing for microbiological, mycotoxins, and pesticides.</p>																				
	<table border="1"> <tr> <td>CBD</td> <td>.00%</td> <td>THC</td> <td>.00%</td> </tr> <tr> <td>CBDA</td> <td>.00%</td> <td>THCA</td> <td>.00%</td> </tr> <tr> <td>CBD</td> <td>.00%</td> <td><b>TOTALS</b></td> <td></td> </tr> <tr> <td>CNB</td> <td>.00%</td> <td>THC/THCA</td> <td>.00%</td> </tr> <tr> <td>CBC</td> <td>.00%</td> <td>Cannabinoids</td> <td>.00%</td> </tr> </table>	CBD	.00%	THC	.00%	CBDA	.00%	THCA	.00%	CBD	.00%	<b>TOTALS</b>		CNB	.00%	THC/THCA	.00%	CBC	.00%	Cannabinoids	.00%	<p>Produced by: <b>Maui Medical Marijuana Dispensary LLC</b> License #123456789</p>
CBD	.00%	THC	.00%																			
CBDA	.00%	THCA	.00%																			
CBD	.00%	<b>TOTALS</b>																				
CNB	.00%	THC/THCA	.00%																			
CBC	.00%	Cannabinoids	.00%																			
	<p>## mg equivalent to ## g of dried cannabis with ##% THC</p>																					
	<p>Net Wt. ##g / #oz</p>																					

# Labeled Medical Cannabis Containers





# LK Pure Labs

Customer: ACE Delavan  
 Address: 300 N. Springfield Road Delavan IL  
 Phone:  
 Email:

Manifest ID: 7363899748712325 Received: 1-22-2016  
 Sample: Charlotte's Web Moisture: 11.9%  
 Type: Flower  
 Batch/Lot ID: 7818 4252 0775 4668  
 Sample ID:

### Potency Test Results

TEST	WEIGHT %	CONCENTRATION (mg/g)
CBD	0.62%	6.20
CBG	N.D	N.D.
CBD-A	11.23%	112.30
CBN	0.16%	1.60
Delta 9 THC (THC)	0.05%	0.50
Delta 8 THC	N.D	N.D.
CBC	N.D	N.D.
THC-A	0.42%	4.40
<b>TOTAL</b>	<b>12.48%</b>	<b>125.00</b>

### Terpene Test Results

TEST	Microgram Per Gram (ug/g)
Alpha-Pinene	N.D.
Beta-Pinene	811.49
Delta-3-Carene	N.D.
Alpha-Terpinene	N.D.
P-Cymene	N.D.
Limonene	788.23
Ocimene	N.D.
Terpinolene	N.D.
Linalool	N.D.
Beta-Caryophyllene	7157.78
Alpha-Humulene	3471.42
Trans-Nerolidol	N.D.
Alpha-Bisabolol	6091.19

### MICROBIOLOGICAL TESTS:

Total Viable Aerobic Bacteria 10 <sup>4</sup>	Pass
Total Yeast And Mold 10 <sup>3</sup>	Pass
Total Coliform 10 <sup>2</sup>	Pass
Bile-Tolerant Gram Negative Bacteria 10 <sup>2</sup>	Pass
E-coli (Pathogenic Strains)- no detection in 1 gram	Pass
Salmonella- no detection in 1 gram	Pass

### MYCOTOXIN TESTS (<20 ug/kg of substance)

Aflatoxin B1	Pass
Aflatoxin B2	Pass
Aflatoxin G1	Pass
Alatoxin G2	Pass
Ochratoxin A	Pass

PESTICIDE RESIDUE TEST (No Detection) **Pass**

RESIDUAL SOLVENT TEST (Below 10PPM) **Pass**

VISUAL INSPECTION **Pass**

N.D. = Non-Detected Values are below the method detection limit

\* = Value reported is between the calculated reporting limit (0.2% or 2 mg/g) and the calculated method detection limit (0.075% or 0.75 mg/g)

MDL= Method Detection Limit (0.075% or 0.75 mg/g)

N.D. = Non-Detected Values are Terpene Levels below 500 ug/g

### Lab Information

LK Pure Labs  
 10550 State Route 4  
 Sparta, IL 62286

Phone: 618-443-6685

Fax: 618-443-4395

s.keith@LKpurelabs.com

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

This report and all information herein shall not be reproduced, except in its entirety, without the expressed written consent of LK Pure Labs.

This report is for informational purposes only and shall not be used to diagnose, treat, or prevent any medical related symptoms.

Due to many factors outside of LK Pure Labs control, results may vary. Results are only for the samples supplied to LK Pure Labs.

The statements and results herein have not been approved or endorsed by the FDA.



# LK Pure Labs

Customer: ACE Delavan  
 Address: 300 N. Springfield Road Delavan IL  
 Phone:  
 Email:

Manifest ID: 7363899748712325 Received: 1-22-2016  
 Sample: Tora Bora Moisture: 9.7%  
 Type: Flower  
 Batch/Lot ID: 1598 7737 2658 8699  
 Sample ID:

### Potency Test Results

TEST	WEIGHT %	CONCENTRATION (mg/g)
CBD	0.37%	3.70
CBG	0.04%	0.40
CBD-A	N.D.	N.D.
CBN	0.25%	2.50
Delta 9 THC (THC)	1.10%	11.00
Delta 8 THC	N.D.	N.D.
CBC	0.20%	2.00
THC-A	26.40%	264.00
<b>TOTAL</b>	<b>28.36%</b>	<b>283.60</b>

### Terpene Test Results

TEST	Microgram Per Gram (ug/g)
Alpha-Pinene	N.D.
Beta-Pinene	547.36
Delta-3-Carene	N.D.
Alpha-Terpinene	N.D.
P-Cymene	N.D.
Limonene	2829.84
Ocimene	N.D.
Terpinolene	N.D.
Linalool	878.27
Beta-Caryophyllene	8994.75
Alpha-Humulene	4606.94
Trans-Nerolidol	N.D.
Alpha-Bisabolol	1602.97

### MICROBIOLOGICAL TESTS:

Total Viable Aerobic Bacteria 10 <sup>4</sup>	Pass
Total Yeast And Mold 10 <sup>5</sup>	Pass
Total Coliform 10 <sup>2</sup>	Pass
Bile-Tolerant Gram Negative Bacteria 10 <sup>2</sup>	Pass
E-coli (Pathogenic Strains)- no detection in 1 gram	Pass
Salmonella- no detection in 1 gram	Pass

### MYCOTOXIN TESTS (<20 ug/kg of substance)

Aflatoxin B1	Pass
Aflatoxin B2	Pass
Aflatoxin G1	Pass
Alatoxin G2	Pass
Ochratoxin A	Pass

PESTICIDE RESIDUE TEST (No Detection) **Pass**

RESIDUAL SOLVENT TEST (Below 10PPM) **Pass**

VISUAL INSPECTION **Pass**

N.D. = Non-Detected Values are below the method detection limit

\* = Value reported is between the calculated reporting limit (0.2% or 2 mg/g) and the calculated method detection limit (0.075% or 0.75 mg/g)

MDL= Method Detection Limit (0.075% or 0.75 mg/g)

N.D. = Non-Detected Values are Terpene Levels below 500 ug/g

### Lab Information

LK Pure Labs  
 10550 State Route 4  
 Sparta, IL 62286

Phone: 618-443-6685  
 Fax: 618-443-4395

s.keith@LKpurelabs.com  
[www.LKpurelabs.com](http://www.LKpurelabs.com)

This report and all information herein shall not be reproduced, except in its entirety, without the expressed written consent of LK Pure Labs. This report is for informational purposes only and shall not be used to diagnose, treat, or prevent any medical related symptoms. Due to many factors outside of LK Pure Labs control, results may vary. Results are only for the samples supplied to LK Pure Labs. The statements and results herein have not been approved or endorsed by the FDA.



# LK Pure Labs

Customer: ACE Delavan  
Address: 300 N. Springfield Road Delavan IL  
Phone:  
Email:

Manifest ID: 7363899748712325 Received: 1-22-2016  
Sample: Gorilla Glue Moisture: 10.2%  
Type: Flower  
Batch/Lot ID: 9173 7814 0005 5494  
Sample ID:

### Potency Test Results

TEST	WEIGHT %	CONCENTRATION (mg/g)
CBD	0.35%	3.50
CBG	0.11%	1.10
CBD-A	0.19%	1.90
CBN	0.17%	1.70
Delta 9 THC (THC)	14.65%	146.50
Delta 8 THC	N.D.	N.D.
CBC	N.D.	N.D.
THC-A	11.67%	116.70
<b>TOTAL</b>	<b>27.14%</b>	<b>271.40</b>

### Terpene Test Results

TEST	Microgram Per Gram (ug/g)
Alpha-Pinene	N.D.
Beta-Pinene	N.D.
Delta-3-Carene	N.D.
Alpha-Terpinene	N.D.
P-Cymene	N.D.
Limonene	810.55
Ocimene	N.D.
Terpinolene	N.D.
Linalool	N.D.
Beta-Caryophyllene	5770.20
Alpha-Humulene	2891.79
Trans-Nerolidol	N.D.
Alpha-Bisabolol	1571.79

### MICROBIOLOGICAL TESTS:

Total Viable Aerobic Bacteria 10 <sup>4</sup>	Pass
Total Yeast And Mold 10 <sup>3</sup>	Pass
Total Coliform 10 <sup>2</sup>	Pass
Bile-Tolerant Gram Negative Bacteria 10 <sup>2</sup>	Pass
E-coli (Pathogenic Strains)- no detection in 1 gram	Pass
Salmonella- no detection in 1 gram	Pass

### MYCOTOXIN TESTS (<20 ug/kg of substance)

Aflatoxin B1	Pass
Aflatoxin B2	Pass
Aflatoxin G1	Pass
Alatoxin G2	Pass
Ochratoxin A	Pass

### PESTICIDE RESIDUE TEST (No Detection)

### RESIDUAL SOLVENT TEST (Below 10PPM)

### VISUAL INSPECTION

Pass  
Pass  
Pass

N.D. = Non-Detected Values are below the method detection limit

\* = Value reported is between the calculated reporting limit (0.2% or 2 mg/g) and the calculated method detection limit (0.075% or 0.75 mg/g)

MDL= Method Detection Limit (0.075% or 0.75 mg/g)

N.D. = Non-Detected Values are Terpene Levels below 500 ug/g

### Lab Information

LK Pure Labs  
10550 State Route 4  
Sparta, IL 62286

Phone: 618-443-6685  
Fax: 618-443-4395

s.keith@LKpurelabs.com  
[www.LKpurelabs.com](http://www.LKpurelabs.com)

This report and all information herein shall not be reproduced, except in its entirety, without the expressed written consent of LK Pure Labs. This report is for informational purposes only and shall not be used to diagnose, treat, or prevent any medical related symptoms. Due to many factors outside of LK Pure Labs control, results may vary. Results are only for the samples supplied to LK Pure Labs. The statements and results herein have not been approved or endorsed by the FDA.



# LK Pure Labs

Customer: ACE Delavan  
 Address: 300 N. Springfield Road Delavan IL  
 Phone:  
 Email:

Manifest ID: 7363899748712325 Received: 1-22-2016  
 Sample: Doc's OG Moisture: 9.9%  
 Type: Flower  
 Batch/Lot ID: 9485 2612 1035 7255  
 Sample ID:

### Potency Test Results

TEST	WEIGHT %	CONCENTRATION (mg/g)
CBD	0.32%	3.20
CBG	N.D.	N.D.
CBD-A	N.D.	N.D.
CBN	N.D.	N.D.
Delta 9 THC (THC)	3.57%	35.70
Delta 8 THC	N.D.	N.D.
CBC	N.D.	N.D.
THC-A	14.49%	144.90
<b>TOTAL</b>	<b>18.38%</b>	<b>183.80</b>

### Terpene Test Results

TEST	Microgram Per Gram (ug/g)
Alpha-Pinene	645.61
Beta-Pinene	1117.02
Delta-3-Carene	N.D.
Alpha-Terpinene	N.D.
P-Cymene	N.D.
Limonene	3920.82
Ocimene	N.D.
Terpinolene	N.D.
Linalool	2440.67
Beta-Caryophyllene	6132.92
Alpha-Humulene	2322.51
Trans-Nerolidol	N.D.
Alpha-Bisabolol	2214.41

### MICROBIOLOGICAL TESTS:

Total Viable Aerobic Bacteria 10 <sup>4</sup>	Pass
Total Yeast And Mold 10 <sup>3</sup>	Pass
Total Coliform 10 <sup>2</sup>	Pass
Bile-Tolerant Gram Negative Bacteria 10 <sup>2</sup>	Pass
E-coli (Pathogenic Strains)- no detection in 1 gram	Pass
Salmonella- no detection in 1 gram	Pass

### MYCOTOXIN TESTS (<20 ug/kg of substance)

Aflatoxin B1	Pass
Aflatoxin B2	Pass
Aflatoxin G1	Pass
Alatoxin G2	Pass
Ochratoxin A	Pass

PESTICIDE RESIDUE TEST (No Detection) **Pass**

RESIDUAL SOLVENT TEST (Below 10PPM) **Pass**

VISUAL INSPECTION **Pass**

N.D. = Non-Detected Values are below the method detection limit

\* = Value reported is between the calculated reporting limit (0.2% or 2 mg/g) and the calculated method detection limit (0.075% or 0.75 mg/g)

MDL= Method Detection Limit (0.075% or 0.75 mg/g)

N.D. = Non-Detected Values are Terpene Levels below 500 ug/g

### Lab Information

LK Pure Labs  
 10550 State Route 4  
 Sparta, IL 62286

Phone: 618-443-6685  
 Fax: 618-443-4395

s.keith@LKpurelabs.com  
[www.LKpurelabs.com](http://www.LKpurelabs.com)

This report and all information herein shall not be reproduced, except in its entirety, without the expressed written consent of LK Pure Labs. This report is for informational purposes only and shall not be used to diagnose, treat, or prevent any medical related symptoms. Due to many factors outside of LK Pure Labs control, results may vary. Results are only for the samples supplied to LK Pure Labs. The statements and results herein have not been approved or endorsed by the FDA.