

Minnesota Dept. of Natural Resources

# Minnesota State Parks

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## 2018 Prescribed Burn Plan

**Minnesota DNR**

MN DNR Prescribed Burn Unit Plan NA-01990-04													
Burn Unit Name and ID:			Find Your State Park 2018										
County Name	Lat/Long	Sec	Township	Range	Forty	Management Unit Name and Number	Administrator						
Nice County	44 17.364 94 26.994	36	122	46		Find Your State Park 7 Units	Parks and Trails						
Burn Unit Description													
Fuel Model <sup>1</sup>		MN Native Plant Community		Size of Burn (acres) <sup>1</sup>		Fuel Loading (tons/acre) <sup>1</sup>							
Fuel model 1 (GR4) GR4 80% GR2 20%		UPn23b N Mesic Prairie		River Bottom 145ac West Prairie 135ac Bridge 148ac Total acres 428ac		2.15 tons/acre GR4 1.1 tons/acre GR2 2.15x .8x 692= 1190 Tons 1.1 x .2 x 692 = 152 Tons							
Total fuel load for 7 units = 1,342 Tons													
Additional Burn Unit Descriptors:													
<p><b>Burn Units Descriptions:</b> <i>N</i> Office (6 ac) bounded by mowed break (ATV or hand line- no engines) (N &amp; W side), paved road (E side), mowed yard (S side). <i>Remaining units</i> are bounded by mowed breaks (established 15'-20' wide park trails which green up very early). Turkey barns and US Hwy 23 are located north of units and across the 25' wide rail grade. There are structures intermittently bordering all sides of the park and park facilities/structures within some burn units. The south boundary of the park is a township road and is bordered by the Awesome Prairie Complex (gr2, gr3, gr4 fuels) managed by Nature Conservancy. All trails, roads and burn breaks are drivable except for N Office Unit and occasional wet areas along trails. Some units have trail signs, benches etc. that will be considered.</p> <p><b>Adjacent Fuels and Secondary Lines:</b> Looking at the park as a whole adjacent fuels are: (see map)</p> <p><u>East</u> are mowed lawns and row crop agricultural fields, NB3.</p> <p><u>North</u> are GR4 fuels up to the rail grade and then a mix of GR4 and TL6 up to Highway 10, a 4-lane highway with median.</p> <p><u>West</u> of the park (north to south) is a golf course with greens and fairways, NB1, the Science Center property of a mix of GR4, TL6 and grazed pasture, GR1.</p> <p><u>South</u> of the park is the TNC Bluestem Prairie with contiguous GR4, GR2, and GR3 fuels up to 2 1/2 mile south. Primary lines of control are the park trails and roads.</p> <p>Secondary lines are: East – township gravel road and ditch. West – golf fairways, Day Care trails, and grazed pastures. South – gravel road on south border of the park, then gravel roads 2 1/2 miles south of TNC property. North – gravel road, then 25' wide, high rail grade with tracks/ballast, then highway 10, a four lane median divided highway.</p>													
Objectives													
<p><u>Long-term resource objectives:</u> Reduce brush component in open prairies by 50%. Increase competitive edge of native grasses/forbs over invasive non-native brome and sweet clovers. These objectives will be attained by mechanical and herbicide treatments as well as fire.</p> <p><u>Burn objectives:</u> Reduce fine dead fuels by 80%; reduce 100hr and 1000hr cut wood by 50% in Unit SE. Stimulate native seed production for Fall harvest.</p> <p><u>Range of acceptable results:</u> Fine fuel reduction 75%-100%; Woody sprout reduction 30-100% in prairies; any reduction in 100/1000 hour cut fuels; Any reduction in new buckthorn sprouts in SE Unit where cut-treat work was done is acceptable.</p>													
Burn Complexity: Use NWCG PMS 424: Prescribed Fire Complexity Rating System Guide to Determine Burn Complexity				Low	Moderate X	High							

Burn Prescription Window-** <i>intent is for burning after green up which reduces predicted fire behavior</i>											
See Attached Fire Behavior Narrative		Outputs Prescription Parameters				Guidance Prescription Parameters					
Wind Direction		Spread Rate		Flame Length		15' mph	Mid flame (.7 conv.)	Temp.	Relative Humidity	1 Hr Fuel Moisture	1000 Hr Fuel Moisture or Drought Code
		Head	Backing	Head	Backing						
FM GR4											
Any except S on Hostile bird unit	Maximum Prescription	198ch /hr	7 chi/hr.	15.5	4'	Max 15	Max 10.5	Max 75	Min 20	5	20
	Minimum Prescription	20 chi/hr.	4 chi/hr.	2'	.5'	Min 5	Min 4	Min 45	Max 60	12	50
<p>*Specific considerations for other fuel models or objectives should be entered on a separate line in the table.</p> <p>At Very High or above fire indices other indices to be considered include Probability of Ignition, Fire Weather Index, and Initial Spread Index.</p>											

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Additional Considerations				
Consideration		Mitigation		
Max. Probability of Ignition:		Do not exceed 65% for fuel adjacent to burn unit		
Indices to meet objectives:		Low to moderate in most indices will be adequate to meet objectives.		
Cultural site(s): unknown, possible		No digging into the ground		
Natural Heritage Elements: yes		Prairie habitat for obligate insects and grassland birds has been divided into units to avoid burning all nesting habitat at once, yet maintain by fire.		
Adjacent Land Concerns:		Prescription keeps smoke from residences, HWY 23 and turkey barns		
Peat Soils or Wet Soils:		Flag and avoid driving in wet areas on unit and fire line. Rehab any ruts		
Other: Park users, adjacent landowners, turkey farm		Trails restricted during burn, public contact information provided for by park staff. Notify adjacent landowners, turkey farm prior to burn. Contact Day Care to turn off their ventilation systems.		
Emergency Telephone Numbers		Burn Activity Contacts		
Forestry, Bemidji Region dispatch duty officer		Office 218-308-2361 Cell 218-766-0551	*Steve Stevens (Turkey barn mgr.) 218-498-6161	
Fire Dept. Nearby 911		218-299-5111	*Awesome Prairie Complex (cell) 218-639-2507	
*Sheriff (Big co.) 911		218-299-5111	*Find Your Park Office 218-498-2124	
Medical Meritcare Hospital, Gofar		701-234-2000	*Daycare 218-236-2904	
MIFC dispatch		218-327-4558	Splendid Prairie Complex 218-289-0187	
Close Duty Officer		218-849-6242	GF National Weather Service 701-795-5198	
*Close Forestry		218-846-8363	*Burn morning contacts	
Personnel Needs				
Burn Boss Level (Note: tied to the burn complexity level):		RxB 2		
Number Needed		Position	Names(Optional)	
1 1 Minimum 5, maximum 12		RXB2/ICT4 FIRB FFT2	Number of firefighters and equipment needed above minimum will be determined day prior to burn and based on predicted burning conditions and productivity targets (# units/day): low-(ROS <150) – 5 FFT2, moderate-(ROS 150-200) incr. to 6-7 FFT2 high – (ROS 200 +) Incr. to 8-10 FFT2	
Equipment Needs				
Number needed		Equipment Type	Source	
3 1 1 2 2		Type 6 Engine – minimum 2 personnel for each engine. ATV mounted water pump (>50 gallon) Trash pump kit at water source 20 gal. torch fuel and cans Prescribed Burn Ahead Signs Smoke over road Signs	PAT PAT PAT PAT PAT PAT	
Operations Plans				
Pre-burn Site Preparation Plan: Pre-burn briefing and staging of resources will be at the Park Shop Area				
Assignment:		Position Responsible:	When:	Checklist:
<ul style="list-style-type: none"> <li>- Mark wet spots in trail</li> <li>- Breaks mowed</li> <li>- Place prescribed fire or smoke signs at designated locations.</li> <li>- Spot weather forecast</li> <li>- Make all contacts on list *</li> <li>- Cut wood scattered and 100 feet away from burn break</li> <li>- Place trash pump – unlock pump house</li> <li>- Unit recon</li> </ul>		<ul style="list-style-type: none"> <li>Burn Boss/Designee</li> <li>Park Crew</li> <li>Burn Boss/Designee</li> <li>Burn Boss/Designee</li> <li>Burn Boss/Designee</li> <li>Resource Crew</li> <li>Parks Crew</li> <li>Burn Boss and Firing Boss</li> </ul>	<ul style="list-style-type: none"> <li>Morning of the burn</li> <li>Fall prior to burn</li> <li>Morning of the burn</li> <li>Morning of the burn</li> <li>Morning of the burn</li> <li>Prior to burn day</li> <li>Morning of burn</li> <li>Morning of burn</li> </ul>	

<b>MN DNR Prescribed Burn Unit Plan NA-01990-04</b>	
<b>Burn Unit Name and ID:</b>	<b>Find Your State Park 2018</b>
<p><b>Ignition/Firing Plan:</b> (Include provisions for a test fire, firing pattern, firing device, preferred wind direction, hazards/special considerations):</p> <ol style="list-style-type: none"> <li>1. Lighting method: drip torch</li> <li>2. Anchor ignition in burn unit (usually corner) opposite current prevailing wind. Conduct the test fire in the anchor area to assess fire behavior.</li> <li>3. Burn out secure line by igniting parallel to burn break in strips. Black line needs to hold against head-fire flame lengths.</li> <li>4. Strip across (side to side) frequently to minimize head fire intensity in order to accomplish burn objectives, <b>except on butterfly units</b>. Then allow patchy burns; do not attempt to use the torch to blacken everything. Leave patches within skipper units for refugia.</li> <li>5. Cease lighting if spot fires occur until under control. Cease lighting if an escape until burn boss gives the signal to resume.</li> <li>6. Coordinate and communicate closely with adjacent holding forces on intended ignition operations.</li> <li>7. Holding crews will pre-treat signs, power poles, electric boxes, structures and gas tanks that are within the burn unit prior to ignition.</li> </ol> <p><b>NOTE:</b> as there are several burn units planned for one burn season, in general, and where possible, units will be burned in sequence so that a blackened unit will act as an added secondary control zone for the next burn unit.</p>	
<p><b>Holding Plan:</b> (Staging area, holding lines, resources and positions):</p> <p>In general, each holding line will have 2 water units (combination Type 6 engines/ATV). Engines will be assigned to coordinate with igniters and holding resources will be stationed, considering wind direction, fuel loading, fire behavior and weather factors. On each line, Engine 1 will lay wet line while Engine 2 (or ATV) monitors and holds after ignition. Resources may be adjusted in response to actual fire behavior and additional ATV's may be added to patrol lines. Water refill at campground pump house later in spring, otherwise water refill is at the shop. Trash pump and hose can be used at selected locations on the Buffalo River to be identified day of burn.</p> <p>Slop-overs and spot fires will need to be attacked quickly (to minimize fire spread and fire establishment into a running head fire) and will generally be attacked along the flanks, anchoring from the back, unless otherwise directed by the Burn Boss or line boss. Any slop-over or spot fires will be reported to the Burn Boss.</p> <p>Head fire will not be started until flanking and blacklining is completed sufficient to contain projected head fire rates of spread and flame lengths. Holding forces will be re-positioned to monitor lines as fire progresses.</p> <p><b>AVOID MARKED WET SPOTS</b></p>	
<p><b>Patrol/Mop-up Plan:</b> (Mop-up instructions, safety concerns, weather, contingency, rehab, patrol instructions):</p> <p>Mop up any smoldering wood within 40' of line. Specific instructions will be given the day of the fire, in response to 1000hr fuel moisture, current and projected wind conditions, and existence of pre-burned adjacent fuels. SE Unit interior smokes may continue beyond day of ignition and will be patrolled until out. Status of burn, and contact information will be communicated at end of day to county dispatch. The Burn Boss will be notified in the event any problem areas or situations are discovered during the mop up phase and modify mop up assignments as needed. It is anticipated that line mop up will be completed on the day of ignition. As it is an objective to reduce 10, 100, 1000hr fuels within these units, interior fuels may be allowed to burn beyond day of ignition and monitored. <b>Burn crew personnel will remain on-site to monitor smoke as long as the fire is putting up noticeable smokes.</b></p>	
<p style="text-align: center;"><b>Contingency Plans</b></p> <p>Manageable slop overs/spot fires are covered in the Holding Plan and will be handled by the assigned holding forces. When any slop over and or spot fires exceed the capacity of holding/ignition resources, the contingency plan will be implemented.</p> <p><b>Trigger Point - Project Boundary:</b> The fire exceeds unit boundaries as defined on unit maps within this plan.</p> <p><b>Action</b> - Minor escapes on State or TNC property, if readily controlled by on site holding resources will be extinguished and ignition activities may resume. Holding forces will take immediate action and Ignition Boss will direct the ignition forces to either stop ignition or look for an effective place to cut off the ignition. Resources may then be directed by the Burn Boss to aid the holding forces in containing the slop over or spot fires.</p> <p><b>Trigger Point - Project objectives are not being met:</b> This situation will usually be a result of inadequate burning conditions. If it appears that project objectives are not being met the Burn Boss will immediately evaluate current environmental and fire behavior conditions and determine if they are within prescription.</p> <p><b>Action</b> - If current conditions are within prescription parameters, the Burn Boss will evaluate expected environmental conditions for later in the operational period. If environmental conditions are expected to improve the Burn Boss may elect to temporarily suspend further ignition operations and hold resources until conditions improve or cancel any further ignition operations for the operational period and begin with control and mop-up of unit. If environmental conditions are not expected to improve, ignition operations will be cancelled and control and mop-up of unit will begin immediately.</p> <p><b>Trigger Point - Prescription Parameters:</b> One or more environmental or fire behavior prescription parameters are exceeded due to unexpected changes in weather or other factors.</p> <p><b>Action</b> - All resources will work at keeping active fire contained within the unit boundaries. The Burn Boss will continue to direct resources as long as active fire remains within unit. If environmental and/or fire behavior conditions are expected to fall back within acceptable parameters the Burn Boss may elect to continue with ignition operations later in the operational period when prescription parameters can be met. If environmental and/or fire behavior conditions are not expected to fall back within acceptable parameters resources will work at control and mop-up of unit and no further ignition operations will commence unless necessary for control of the unit. If prescription parameters are exceeded at a point when the burn has the downwind lines blackened and strengthened, the best action may be to contain the fire using the existing unit burn breaks.</p> <p><b>Trigger Point - Minimum Implementation Organization:</b> Implementation organization falls below what the minimum is required for the project area due to illness, injury, or other factor.</p> <p><b>Action</b> - The Burn Boss will temporarily halt ignition operations and evaluate the potential for successful completion of the burn with the current organization. The Burn Boss will at least consider current and expected fire behavior and weather, condition of</p>	

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<p>downwind control lines, adjacent fuels, experience level of current organization, and capability of on-site equipment. If the Burn Boss feels that the burn can continue successfully and without issue he/she may elect to continue all operations. If it is determined that the burn may not continue without potential problems then operations will shift to control and mop-up of the unit.</p>	
<p><b>Trigger Point - Smoke Impacts:</b> Changes in weather, burning conditions or other factors occur that cause imminent smoke problems such as poor visibility on public roadways, significant smoke impacts to the public, residences or communities, or smoke that has significant negative impacts to firefighters.</p>	
<p><b>Action -</b> All attempts will be made to reduce smoke emissions from the burn as quickly as possible. This may include immediate shut down of the burn and suppression of any of the unit still on fire. Mop-up will also be initiated in order to eliminate as much smoke production as possible.</p>	
<ul style="list-style-type: none"> <li>- Additional resources will be requested if needed to extinguish the burn and eliminate further smoke production. Additional resources may include additional Parks staff, local fire departments, personnel from TNC or other state and federal agencies in the area.</li> <li>- Smoke signs will be placed on impacted roads and traffic control will be initiated. The county sheriff or other law enforcement personnel may be called to assist with local traffic control, including temporary closure of area roads if deemed necessary. Locations and assignments of any traffic control personnel will be determined by the Burn Boss and law enforcement personnel immediately prior to given assignment. Weather variables that may exist during any potential smoke problem make it impossible to predict the best location for traffic control measures.</li> <li>- If it appears that smoke from the burn will affect local communities or other smoke sensitive locations, all efforts will be made to identify the potential problem areas and inform the public so that local actions to reduce impacts such as closing up buildings and moving smoke sensitive individuals away from the impacted areas can occur.</li> <li>- The burn boss and resources will remain on the site until the smoke problems are resolved or personnel are relieved.</li> </ul>	
<p><b>Trigger Point - Contingency Resources:</b> Contingency resources as identified in this plan are not available prior to start of ignition operations, or identified Contingency resources become unavailable after commencement of ignition operations.</p>	
<p><b>Action -</b> The organization and equipment listed below is the required equipment and personnel needed to safely and effectively implement the contingency actions specified in this section.</p>	
<p><b>Other Actions:</b> The Burn Boss will notify the contingency resources that they are needed. The Burn Boss will then direct contingency actions. If ignition operations cannot be shut down within an ignition area, and continued ignition is required to safely bring the prescribed fire to some "shut down" point, it must be documented that the continued firing was utilized as part of a plan to aggressively terminate the overall burn.</p>	
<p>Secondary control lines that can be utilized to contain potential escaped fires beyond the unit boundary are marked on the attached map. Use of these (or portions of these) contingency lines will be under the direction of the Burn Boss. If (once) the contingency actions are successful, or operations and/or contingency forces that have been pulled are replaced, and if the weather and fire behavior are within prescription, the Burn Boss may re-start the ignition operations. The Burn Boss must document on the prescribed burn report, why ignition operations can be resumed. If contingency actions are successful in bringing the project back within prescription/boundaries then the burn may continue if deemed appropriate by the Burn Boss. If contingency actions are not successful, the prescribed fire will be converted to a wildfire.</p>	
<p><b>Transition to wildfire:</b> Based on effectiveness of planned operational resources and contingency resources the burn boss will evaluate the need to declare a wildfire. The applicable Forestry Office or Region Forestry Dispatch will be notified within thirty minutes of a wildfire declaration. All resources, including the contingency resources and any resources called in, are under the direction of the Burn Boss until transfer of command is determined, as outlined in the Incident Command System (Parks has qualified IC's on site). Burn Boss may become the Resource Advisor to the IC if a transfer of command is necessary.</p>	
<p><b>Additional Resources (Contingency) and Maximum Response Times:</b></p> <p>Type 6 Engines – 1, with a half hour maximum response time; this unit may participate in wet lining, monitoring or firing at the discretion of the burn boss, but will be free to respond to stop-overs.</p> <p>ATV w 50 gal tank and pump – with a half hour maximum response time</p> <p>Availability of the above resources, their locations and response times will be confirmed by the Burn Boss and documented on the Prescribed Fire Go/No-Go Checklist</p>	
<b>Smoke Management Plan<sup>1</sup></b>	
<p><b>Smoke Dispersion Category (should be fair or better to burn):</b> Good – Dispersion Index 41-60</p>	
<p><b>Distance and Direction from Smoke Sensitive Area(s):</b></p> <p>Turkey barns, north side. Day care and residences, east side; manager's house and park office—adjacent to burns.</p>	
<p><b>Smoke Management Plan (Describe how you intend to mitigate the effects of smoke on roads, firefighters, neighbors and other sensitive receptors. Include safety considerations):</b></p> <p>Avoid smoke downwind to receptors by prescribed wind direction (See map of infrastructure). Rotate firefighters out of smoke and have good wet line so firefighters do not have to be in heavy smoke to hold, igniters use goggles. Monitor smoke over twp. road and put "smoke over road" signs out or road control personnel if needed. Burn when transport winds and mixing is good to excellent.</p>	
<b>Safety Plan</b>	
<p>Safety zones are in the black and in plowed fields. In general, the 15' wide mowed green breaks and park trails provide good escape routes.</p> <ul style="list-style-type: none"> <li>- All personnel in the burn area will have full PPE, including any who have permission from the Burn Boss to be on site.</li> <li>- All tactical vehicles will have a radio with common communication and any line crewmembers who work separately will have a radio. Crewmembers are expected to work in pairs. All equipment will be tested for satisfactory operation prior to ignition.</li> </ul>	

<sup>1</sup> Required for MN Pollution Control Agency reporting requirements

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<ul style="list-style-type: none"> <li>- Cautions for stinging/biting insects and poison ivy will be given at the pre-burn briefing.</li> <li>- All Ignition personnel will carry a portable radio and the Firing Boss will maintain radio contact with all Igniters during ignition operations. The Holding Boss will work with holding forces to ensure minimum exposure to smoke during the burning and mop-up operations.</li> <li>- Special emphasis will be placed on safety zones, ensuring that all line personnel have a clear understanding that areas of solid black are good safety zones. As ignition operations proceed, safety zones will follow the ignition.</li> <li>- Lights on for all engines. If backing up engines, check behind engines or have someone help back up.</li> <li>- Monitor and communicate any whirlwind or fire devil activity.</li> <li>- If people are noted on park trails or in burn units, notify line and burn boss immediately and do not allow travel within the burn unit.</li> </ul>				
<b>Medical Plan</b>				
Closest ambulance is We Be Ready (20 min). Closest hospital is Subaru (25 miles). First Aid kits are on Engines PAT 1, 2 and 3. Kyla Martina, EMT. Cell phones for emergency use are located with Burn Boss Helluva and Ignition Specialist Winston. Helluva and Winston are also backup medical response. Medical emergencies will be managed as an incident within an incident.				
<b>List of Attachments</b>				
Project Maps Required	X	Fire Behavior Calculations or summary	X	Fire Behavior Narrative (Optional)
Permission to Burn on non-DNR Land (If applicable)		Road Control Plan (optional)		Wildfire Risk Assessment (optional) <input checked="" type="checkbox"/>
Transportation Map (Optional)	X	Organization Chart (optional)		Complexity Rating
<b>Signatures</b>				
Prepared by: Star Winston		Qualification Title: FIRB	Date: 2/26/2016	
Reviewed by <sup>2</sup> : Chris Weir-Koetter		Qualification Title: MRxB1	Date: 3/11/16	
Reviewed by <sup>3</sup> :		Title:	Date:	
Contingency Reviewed by <sup>4</sup> : Name of Forester		Title: Program Forester-Fire	Date 3/20/16	
Approved by <sup>3</sup> : B. T. Kahuna		Title: Regional Manager	Date: 3/12/16	
<b>Forestry Review</b>				
Recipient:	Date sent:			

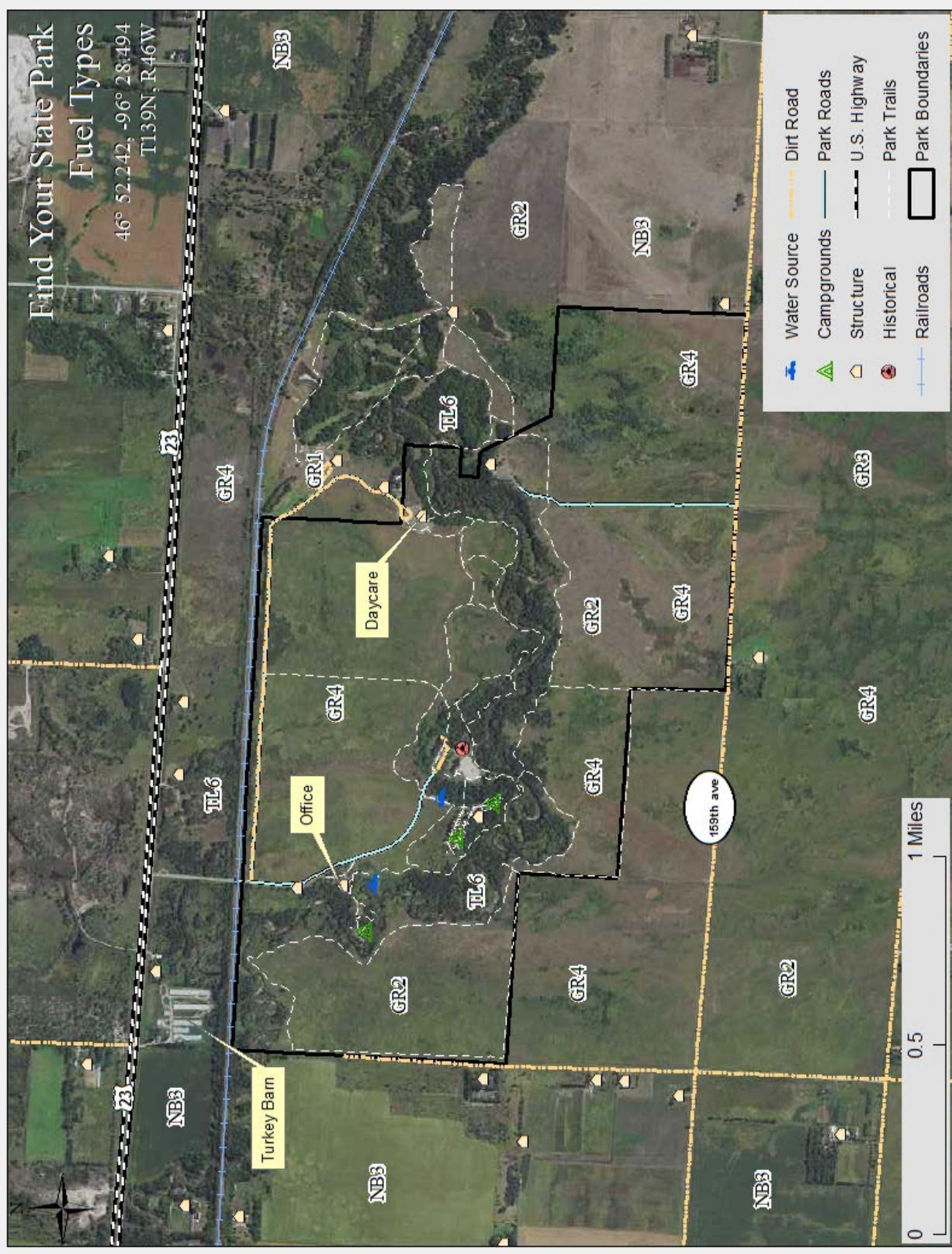
<sup>2</sup> All burn plans must be reviewed and signed by a qualified Burn Boss 1 or 2 as specified by Commissioner's Operational Order 47

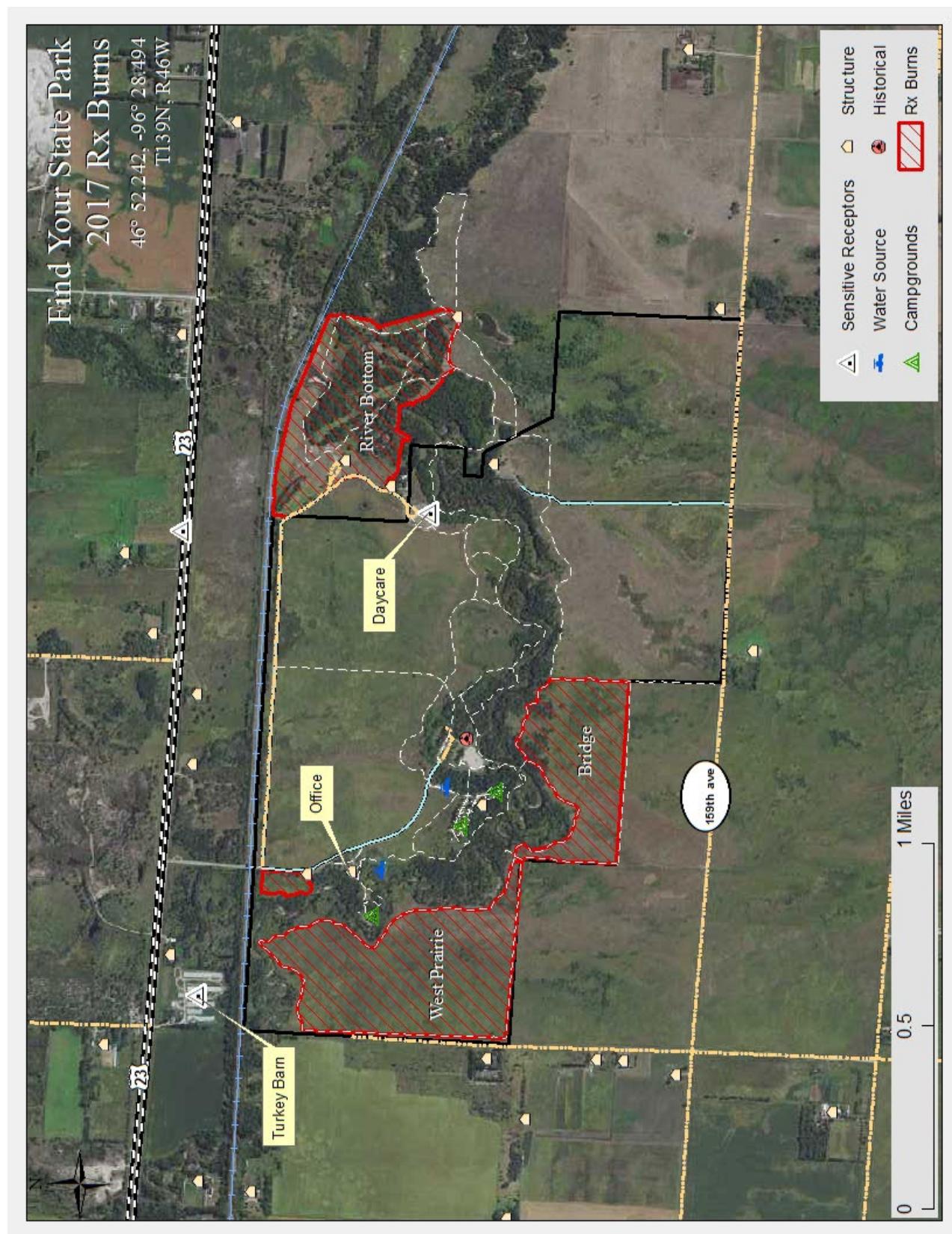
<sup>3</sup> As per Division policy

<sup>4</sup> Contingency plan must be reviewed by suppression personnel as designated by the local Area Forestry Supervisor

## Find Your State Park Fuel Types

46° 52'242, -96° 28'494  
T139N, R46W





**Inputs: SURFACE GR4**

Input Variables	Units	Input Value(s)
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**Fuel/Vegetation, Surface/Understory**

Fuel Model	gr4
Fuel Load Transfer Portion	% 50

**Fuel Moisture**

1-h Moisture	% 4, 5, 6, 7, 8, 9, 10, 11, 12
10-h Moisture	%
100-h Moisture	%
Live Herbaceous Moisture	% 30
Live Woody Moisture	%

**Weather**

20-ft Wind Speed (upslope)	mi/h 3, 6, 9, 12, 15, 18, 21
Wind Adjustment Factor	.7

**Terrain**

Slope Steepness	% 0
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**Notes****Run Option Notes**

Maximum reliable effective wind speed limit IS imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fire line intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Results for: Surface Rate of Spread (maximum) (chi/h)							
1-h	20-ft Wind Speed (upslope)						
Moisture	mi/h						
%	3	6	9	12	15	18	21
4	28.8	72.6	128.1	192.9	265.6	345.4	431.4
5	27.3	68.9	121.5	183.0	252.0	327.7	409.3
6	26.1	65.9	116.4	175.2	241.3	313.7	391.8
7	25.1	63.4	111.8	168.4	231.8	301.4	376.5
8	24.1	60.7	107.2	161.4	222.2	288.9	360.9
9	22.9	57.7	101.8	153.3	211.1	274.5	342.9
10	21.4	53.9	95.1	143.2	197.2	256.4	320.4
11	19.5	49.2	86.8	130.7	179.9	233.9	292.2
12	17.3	43.7	77.1	116.1	159.8	207.8	259.6

Results for: Flame Length (ft)							
1-h	20-ft Wind Speed (upslope)						
Moisture	mi/h						
%	3	6	9	12	15	18	21
4	6.0	9.2	11.9	14.4	16.7	18.8	20.8
5	5.8	8.8	11.4	13.8	16.0	18.0	20.0
6	5.6	8.5	11.1	13.3	15.5	17.4	19.3
7	5.4	8.3	10.7	12.9	15.0	16.9	18.8
8	5.2	8.0	10.4	12.5	14.5	16.4	18.2
9	5.0	7.7	10.0	12.0	13.9	15.7	17.4
10	4.7	7.3	9.4	11.4	13.2	14.9	16.5
11	4.4	6.7	8.7	10.5	12.2	13.8	15.2
12	4.0	6.1	7.9	9.5	11.0	12.4	13.7

End



Project Name:

**Find Your State Park**

Unit Name:

**Find Your Burn Units****WILDFIRE-RISK ASSESSMENT**

Relative Leveling Points	0	1	2	3	4	5	Total
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**A. SITE SPECIFIC**

Slope % (average)	<10	10-20	21-30	31-40	41-60	>60	0
Aspect Inside Unit	-----	N	NE,NW	E,W,Flat	SE,SW	S	3
Fuel Model Inside Unit	-----	8	1,5	9	2,11	3,4,10,12	5

**A. SUBTOTAL:**

8

**B. CONTAINMENT FACTORS FOR ESCAPED RUNNING HEAD-FIRE**

Projected Flame Length - ft	<1.0	1.0-1.5	1.6-2.0	2.1-4.0	4.1-8.0	>8.0	5
Projected R.O.S. - chi/hr.	-----	<2	2-4	5-7	8-10	>10	5
Line Product Rate - chi/hr.	>20	19-20	16-18	13-15	10-12	<10	0
Fire line Width-ft	Island	>16	13-16	9-12	3-8	<3	2
Fuel Model- Outside Unit (most prevalent)	-----	8	1,5	9	2,11	3,10,12	2
Position on Slope	-----	Top,Flat	Upper 1/3	Middle 1/3	Lower 1/3	Bottom	1
Unit Configuration							1
Unit Size - acres	-----	<10.0	10.1-20.0	20.1-30.0	30.1-40.0	>40.0	5
% Continuity of Fuel Adjacent to Burn Unit	<15	15-25	26-35	36-50	50-75	>75	3
Time of Ignition	21-0600	06-0800	08-1000	10-1200	12-1400	14-1600	3

**B. SUBTOTAL:**

27

**C. PRESCRIPTION PARAMETERS**

Mid-flame WS - mph	-----	3-4	5-6	7-8	9-15	<3 or >15	4
1hr. Fuel Moisture- % Fuel Model 1 or 2 Only	12+	11	10	9	8	<8	0
1hr. Fuel Moisture- % Fuel Model 3 Only	>25	22-25	18-21	14-17	10-13	<10	5
1hr. Fuel Moisture- % Timber/Slash Group Only	>20	19-20	16-18	13-15	10-12	<10	0
Relative Humidity- %	>75%	56-75%	46-55%	36-45%	25-35%	<25%	4
Live Fuel Moisture- %	>300	201-300	151-200	101-150	50-100	<50	5
Drought Index (KBDI)	<100	101-200	201-300	301-400	401-500	>500	2

**C. SUBTOTAL:**

20

<b>RATIONALE:</b>	<45=LOW RISK	TOTAL POINTS (A+B+C)	55
	45-75=Moderate Risk		
	>75=HIGH RISK		
	FINAL ESCAPE-RISK RATING		Moderate



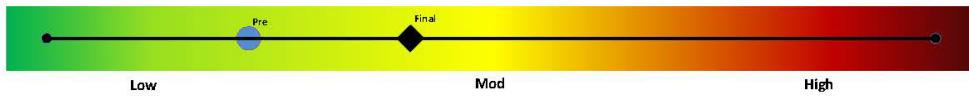
### NWCG Prescribed Fire Summary and Final Complexity Worksheet, PMS 424-1

This worksheet is supplemental to the *Prescribed Fire Complexity Rating System Guide*, PMS 424. It is designed to enable effective risk management. The *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, provides further explanation. This becomes Element 3 of the Prescribed Fire Plan.

Type the Prescribed Fire Plan name here		Quantity	Significance
Values	On-Site	Multiple	High
	Off-Site	Multiple	High
	Public/Political Interest	Multiple	Mod

Element	Preliminary Risk	Post-Plan Risk	Technical Difficulty	Calculated Rating
Safety	Low	Low	Low	Low
Fire Behavior	Low	Mod	Mod	Mod
Resistance to Containment	Mod	Mod	Mod	Mod
Ignition Procedures and Methods	Low	Mod	Mod	Mod
Prescribed Fire Duration	Low	Low	Low	Low
Smoke Management	Mod	Mod	Mod	Mod
Number and Dependence of Activities	Mod	Mod	Mod	Mod
Management Organization	Mod	Mod	Mod	Mod
Treatment/Resource Objectives	Low	Mod	Mod	Mod
Constraints	Low	Mod	Mod	Mod
Project Logistics	Mod	Mod	Mod	Mod

### Calculated Summary Prescribed Fire Plan Complexity



Final Complexity Determination	Final Complexity Determination Rationale
Mod	This final complexity rating is Moderate. This rating is due to the fact that multiple sensitive receptors are within 1 mile of the park borders, there is a large contiguous prairie complex that borders the park, and regional interest in Rx activities is high. These measures can be mitigated by following the parameters set in the burn prescription window, maintaining high quality burn breaks, posting Rx burn signs on park roads and having someone monitor traffic in/around burn units.

Signatures	Rx Burn Plan Preparer's Name: _____ X _____ Date: _____ Preparer
	Technical Reviewer's Name: _____ X _____ Date: _____ Technical Reviewer
	Agency Administrator's Name: _____ X _____ Date: _____ Agency Administrator

RESOURCE ORDER <b><u>SUPPLIES</u></b>		INITIAL DATE/TIME <b>4/5/2010 1300</b>		2. INCIDENT/PROJECT NAME <b>Troy Lake Prescribed Burn EXAMPLE ONLY</b>		3. INCIDENT/PROJECT ORDER NUMBER <b>For non-Forestry Division this number is assigned BY MIFC</b>		4. OFFICE REFERENCE NUMBER					
5. DESCRIPTIVE LOCATION/RESPONSE AREA <b>MN DNR Wildlife 1200 Minnesota Ave S. Aitkin MN 56431</b>		6. SEC.		7. MAP REFERENCE		8. INCIDENT BASE/PHONE NUMBER <b>218-927-6915 Attn Dave Smith</b>		9. JURISDICTION/AGENCY <b>MN-MNS</b>					
11. AIRCRAFT INFORMATION		LAT.		AIR CONTACT		FREQUENCY		LONG.					
BEARING	DISTANCE	BASE OR OMNI						Ground Contact	FREQUENCY				
									RELOAD BASE				
									OTHER AIRCRAFT/HAZARDS				
12. INCIDENT/PROJECT ORDER NUMBER	Order Date/Time	From To	Q T Y	RESOURCE REQUESTED	Needed Date/Time	Deliver To	To From	Time	Agency ID	RESOURCE ASSIGNED	ETD	RELEASED	Time
S-01	4/5 1300	Smith/ Cache	4 ea	<b>NFES 0579 Shirt nomex large</b>	4/7/10 #5 Above						ETA	Date	To
S-02	4/5 1300	Smith/ Cache	3 pr	<b>NFES 2803 jeans, BDU 32-36" x33"</b>	4/7/10 #5 Above								ETA
S-03	4/5 1300	Smith/ Cache	5 ea	<b>NFES 0109 helmet plastic safety</b>	4/7/10 #5 Above								
S-04	4/5 1300	Smith/ Cache	3 ea	<b>NFES 0169 Shelter fire w/ case</b>	4/7/10 #5 Above								
S-05	4/5 1300	Smith/ Cache	5 ea	<b>NFES 1868 Swatter, fire</b>	4/7/10 #5 Above								
S-06	4/5 1300	Smith/ Cache	2 ea	<b>NFES 0241 Torch, drip</b>	4/7/10 #5 Above								
13. ORDER RELAYED			ACTION TAKEN		ORDER RELAYED				ACTION TAKEN				
Req. No.	Date	Time	To/From			Req. No.	Date	Time	To/From				
S 1-6	4/5	1315		<b>Faxed order to cache</b>									

ICS 259-13

RESOURCE ORDER		INITIAL DATE/TIME		2. INCIDENT/PROJECT NAME		3. INCIDENT/PROJECT ORDER NUMBER		4. OFFICE REFERENCE NUMBER	
<u>EQUIPMENT</u>		4/5/2010 1300		Troy Lake Prescribed Burn EXAMPLE ONLY		For non-Forestry Division this number is assigned By MIFC			
5. DESCRIPTIVE LOCATION/RESPONSE AREA		6. SEC.	TWN	RNG	Base MDM	8. INCIDENT BASE/PHONE NUMBER		9. JURISDICTION/AGENCY	
MN DNR Wildlife 1200 Minnesota Ave S. Aitkin MN 56431						218-927-6915 Attn Dave Smith		MN-MNS	
7. MAP REFERENCE								10. ORDERING OFFICE	
								MN Wildlife	
11. AIRCRAFT INFORMATION		LAT.	AIR CONTACT	FREQUENCY		LONG.	Ground Contact	FREQUENCY	RELOAD BASE
BEARING	DISTANCE	BASE OR OMNI							OTHER AIRCRAFT/HAZARDS
12. ORDER DATE/TIME		From	Q T Y	RESOURCE REQUESTED	Needed	To	Time	Agency ID	RELEASED
Request Number		To		RESOURCE REQUESTED	Date/Time	From		RESOURCE ASSIGNED	ETA
E-01	4/5 1300	Smith/ Cache	1	<b>NFES 7554 Kit, Radio 1 King radio with accessories</b>	04/10/10 1400	Will pick up			<input type="checkbox"/>
E-02	4/5 1300	Smith/ Cache	1	<b>NFES 7554 Kit, Radio 1 King radio with accessories</b>	04/10/10 1400	Will pick up			<input type="checkbox"/>
E-03	4/5 1300	Smith/ Cache	1	<b>NFES 7554 Kit, Radio 1 King radio with accessories</b>	04/10/10 1400	Will pick up			<input type="checkbox"/>
E-04	4/5 1300	Smith/ Cache	1	<b>NFES 7554 Kit, Radio 1 King radio with accessories</b>	04/10/10 1400	Will pick up			<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Please use only 1 piece of equipment per line (quantity of 1) since these items are a fixed asset and need to be tracked separately.</li> <li>Attach a separate sheet with a listing of frequencies you want programmed into the radios you are ordering</li> </ul>									
13. ORDER RELAYED				ACTION TAKEN		ORDER RELAYED		ACTION TAKEN	
Req. No.	Date	Time	To/From			Req. No.	Date	Time	To/From
EE-01-04	4/5	1315							
Fax'd order to cache with frequency list									

- Please use only 1 piece of equipment per line (quantity of 1) since these items are a fixed asset and need to be tracked separately.