



SITE DEVELOPMENT, EXCAVATION, DEMOLITION
 WATER AND SEWER SYSTEMS
 AGGREGATE OPERATIONS

**Solid Waste Management
 Landfill Sitework and Closures**
 8 U.S. ROUTE 4 EAST, MENDON, VERMONT 05701 802/773-0052
 FAX 802/747-7992

Submittal

To: State of Vermont Agency of Transportation
 Southwest Regional Construction Office
 61 Valley View
 Mendon, VT 05701

Date: February 9, 2015
 Project: Shrewsbury STP 1443 (44)

Contract: Shrewsbury STP 1443 (44)

Attention: Tim Pockette (RE)

From: Jacob Robinson

Copies	CCI Submittal Number	Specification Section	Description
Electronic	3	SP 13	Lighting Plan for Nighttime Work

Contractors Review and Comments

Reviewed By: Jacob Robinson/Jeff Chase

Comments: The attached lighting plan is designed for the intent to used only if working daytime hours is not enough time to meet the 28 days closure period of Lincoln Hill Road.

Engineers Review Stamp and Comments

Night Time Lighting Plan
 CCI's intent is to work daylight hours, 6am to 8pm) primarily during the 28 day road closure period for the Shrewsbury STP 1443 (44), however if required due to weather or other scheduling issues we intend on recovering time by working nights on the excavation of backfill of the structure. Below is our lighting plan design.

Designed in accordance with the National Cooperative Highway Research program (NCHRP) Report 498 – Illumination Guidelines for Nighttime Highway Work.

Work Zone Area = 120 feet x 200 feet = 24000 sf

Suggested Target Illumination (per Table 3 of NCHRP Report 498, page 52- Task No. 20 Drainage Structures)= 54 lux (Cat I Work)

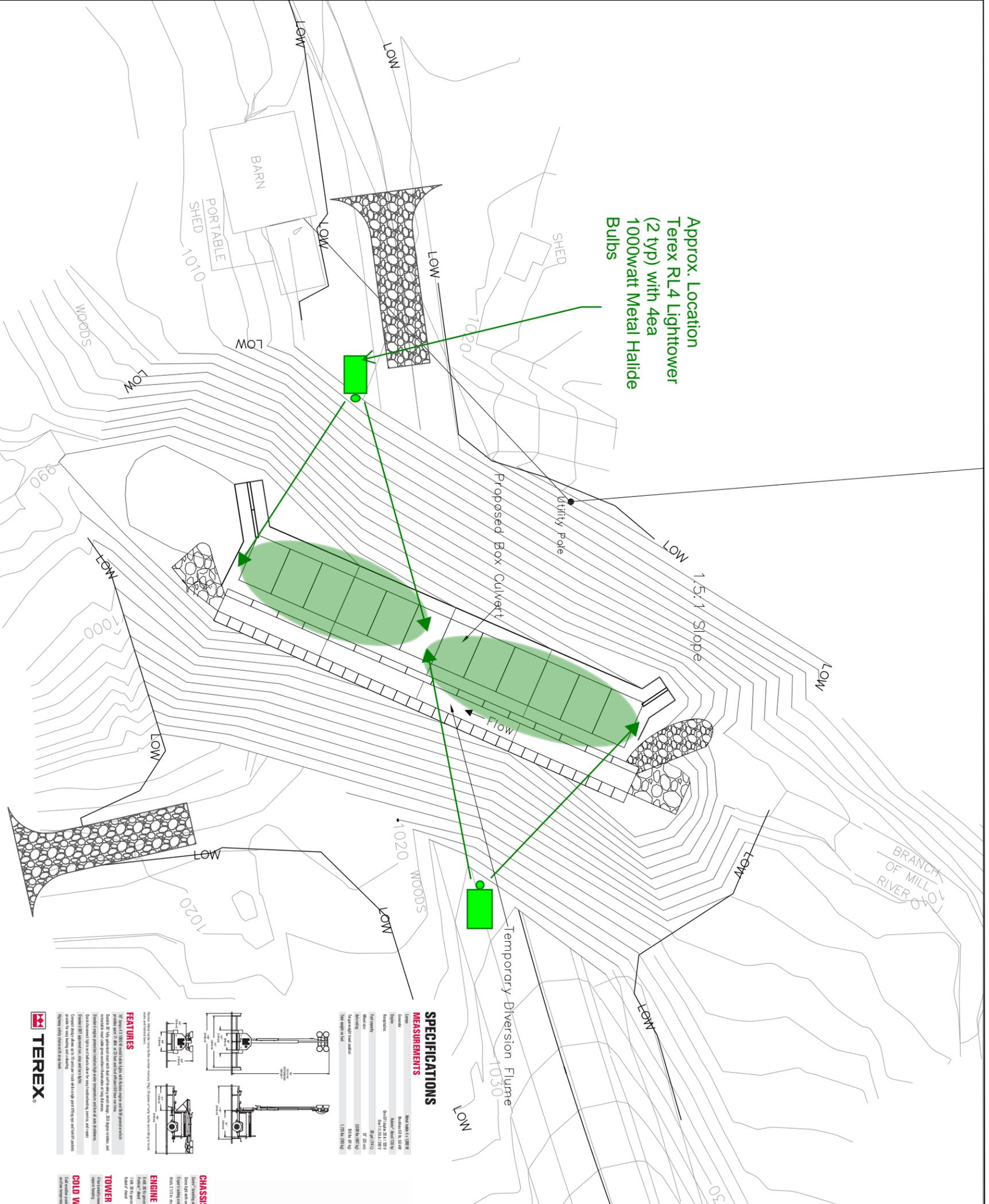
Recommended Watt per Square Meter per Figure 5 = 3.0 watts per square meter or 0.32 watts per square foot.

Total Required Watts = .32 watts per square foot x 24000 sf = 7680 watts

Light Source = 2 ea Terex RL4 each with 4ea Metal Halide Bulbs @ 1000watts = 8000 available watts > Required Watts

Installation Notes:

Extend towers fully and aims at no more than 60 degree angle and per the NCHRP Figure 6 Below. Placement of towers is below.

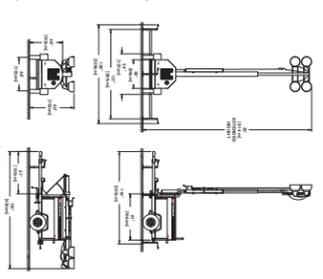


Approx. Location
 Terex RL4 Lighttower
 (2 typ) with 4ea
 1000watt Metal Halide
 Bulbs

SPECIFICATIONS

MEASUREMENTS

Model	Model RL4-1 (2000W)
Height	Height 20' (6.1m)
Weight	Weight 1000 lbs (454 kg)
Capacity	Capacity 2000 lbs (907 kg)
Power	Power 2000W (2.7kVA)
Material	Material Galvanized Steel
Finish	Finish Powder Coat
Warranty	Warranty 1 Year



FEATURES

• 20' height for maximum visibility
 • 2000W power for extended operation
 • Galvanized steel construction for durability
 • Powder coat finish for corrosion resistance
 • Easy transport and setup
 • 1 year warranty

RL4 LIGHT TOWER



CHASSIS OPTIONS

• Standard chassis with 4x12 tires
 • Heavy duty chassis with 6x12 tires
 • Custom chassis for special applications

ENGINE OPTIONS

• 2000W generator
 • 3000W generator
 • 4000W generator

COLD WEATHER OPTIONS

• Cold weather protection for generator
 • Cold weather protection for battery
 • Cold weather protection for control panel

WORKS FOR YOU.

Fixed Work Areas	
Drainage Excavation, Pipe Installation, Structures, Signalization, Maintenance Activities, Staging and Startup of Paving Operations	
Illumination Requirements	Minimum Area Illumination Level = 54 lx Category II Work - Minimum Illumination Level = 108 lx Category III Work - Minimum Illumination Level = 216 lx
Recommended Lighting Equipment	Portable Light Towers with extending towers, four luminaires (Typically 1000w metal halide)
Configuration Guidelines	1) Extend Tower to Maximum Practical Height 2) Use Glare Control Shades on the Luminaires 3) Maintain Glare Control Aiming When possible aim lights away from oncoming traffic. Angle between the vertical and the aiming direction of the lamps should not exceed 60 degrees 4) Space Light Plants to Provide Required Illumination Levels
Typical Configuration Sketch	

Figure 6. Field guidelines for fixed area lighting.



CASELLA CONSTRUCTION, INC.
 25 INDUSTRIAL LANE
 MENDON, VERMONT 05701
 PHONE: 802.773.0052
 FAX: 802.747.7992

PROJECT: SHREWSBURY STP 1443 (44)
 SHREWSBURY, VERMONT
DRAWING: Lighting Plan for Nighttime Work

VERMONT AGENCY OF TRANSPORTATION
 ONE NATIONAL LIFE DRIVE
 MONTPELIER, VT 05633

DRAWN BY: JDR
CHECKED BY: JC
DATE: 2/9/15
DRAWING NUMBER: 1 of 1
DRAWING SCALE: 1" = 30'