

MEMORANDUM

Date: July 21, 2021

To: Planning Board
Town of Sturbridge

From: SITEC, Inc. a Part of Civil & Environmental Consultants, Inc.
Steven D. Gioiosa, P.E. and Daniel N. Aguiar

Subject: Lucky Mart
Site Redevelopment

Location: 122 Main Street
Sturbridge, MA

CEC Project: 304-106



Attached please find an application with supporting documents for Site Plan Review for the convenience store/gas station located at 122 Main Street. The project is a proposed upgrade to the site to improve parking for customers while upgrading the fuel tank and fuel dispensing systems for the gasoline component of the site. The following is a summary of the proposed site modifications:

1. Relocate fuel dispensing islands and canopy to facilitate parking changes;
2. Add (8) parking spaces, including an ADA compliant space, in front of the convenience store for improved customer access;
3. Add landscaped islands at the ends of the new parking stalls for vehicle protection;
4. Add a 332 SF addition to the southeast building corner;
5. Add a 1,280 SF addition to the north end of the existing store (Phase 2);
6. Remove portions of the existing paved surface and add buffer plantings;
7. Add two roof drain stormwater recharge systems for runoff mitigation;
8. Add a trench drain interceptor, downgradient of the pump islands. This trench drain will direct the surface runoff to a water quality treatment unit for hydrocarbon and total suspended solids (TSS) removal;

9. The overflow from the treatment unit will get secondary treatment in a bioretention basin that will have an amended soil base and a wetland seed mix surface. This basin will maintain the existing runoff flow path without encroaching on the adjacent steep slope; and
10. A crushed stone filter strip will be provided along a portion of the southerly edge of pavement for runoff mitigation with an overflow directed into the bioretention area.

On Sheet 1 of 4 of the site plans, we have provided a narrative summary of the vital statistics of the project including parcel area, gross floor area, number of parking spaces, and lot coverage data.

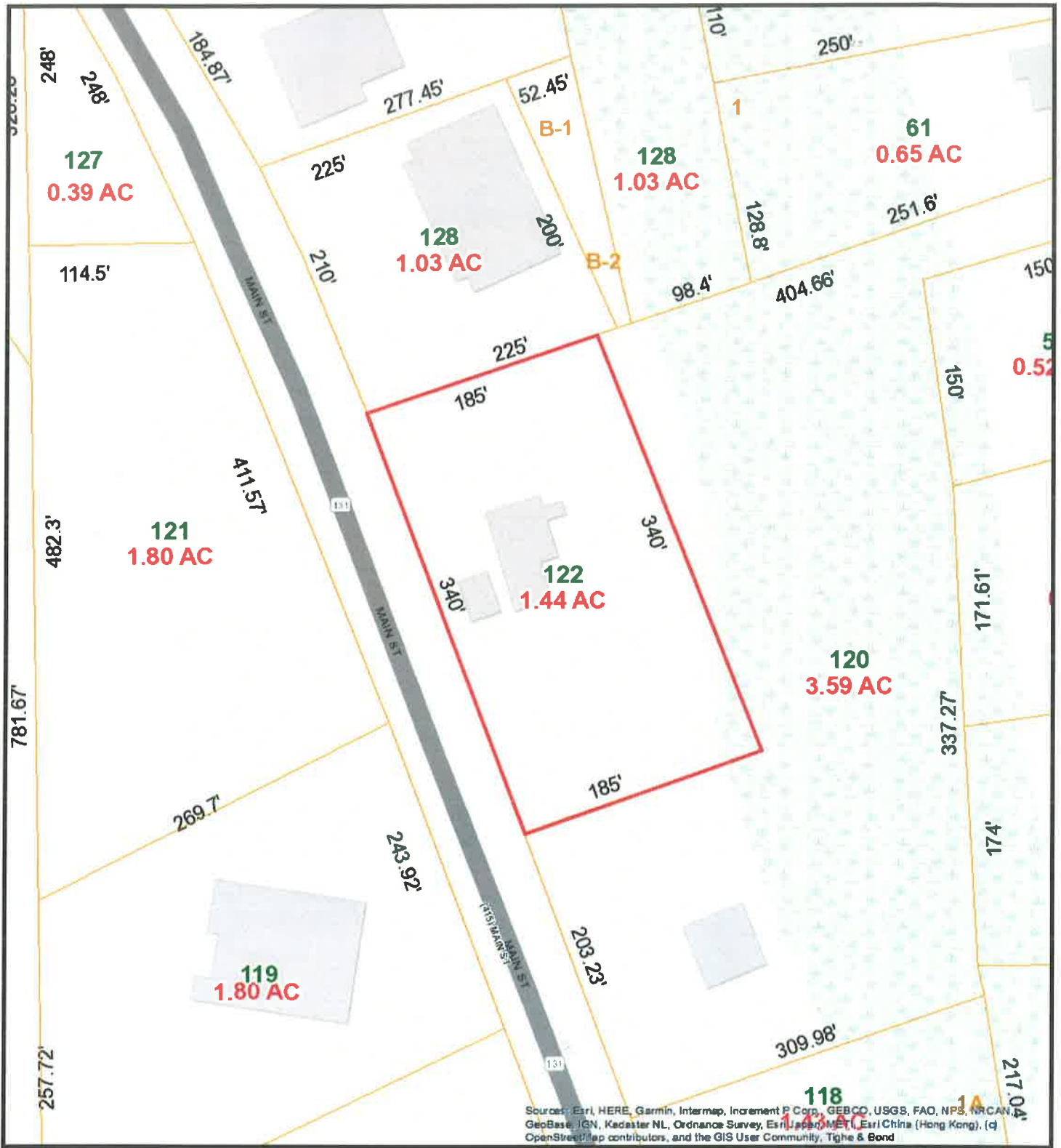
Water consumption and wastewater generation will be relatively low for this retail use. As a retail use, we have projected the flows based on Title 5 which projects an average daily flow at a rate of 50 gallons per day (GPD) per 1,000 SF. For this project, this results in a projected flow of 210 GPD. This is the equivalent of a 2 bedroom dwelling.

It is important to note that the building architecture, materials, and colors will remain the same for the additions. As depicted on the attached architectural plans, the maximum building height will be 21.5 feet, with the two additions being slightly lower than the existing roof peak.

Thank you in advance for your consideration of this application.

cc: Swaminarayan Realty, LLC

Attachments: Site Plans
Architectural Plans
Drainage Summary/Maintenance Report
Photographs
Locus Map – 1" = 400'
Lighting Specifications



Sources: Esri, HERE, Garmin, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Tighe & Bond

122 Main Street

7/21/2021 11:29:15 AM

Scale: 1"=100'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



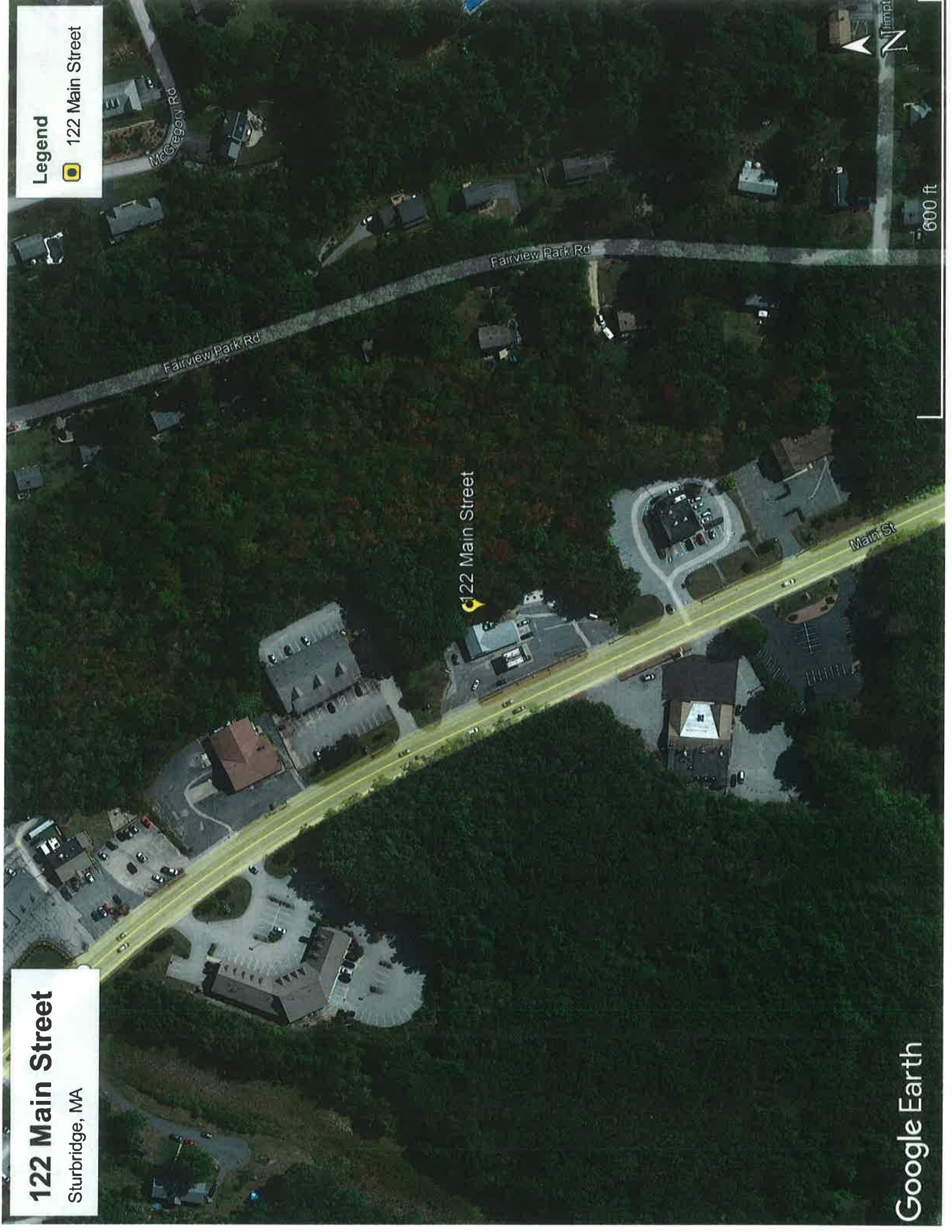
122 Main Street

Sturbridge, MA

Legend



122 Main Street



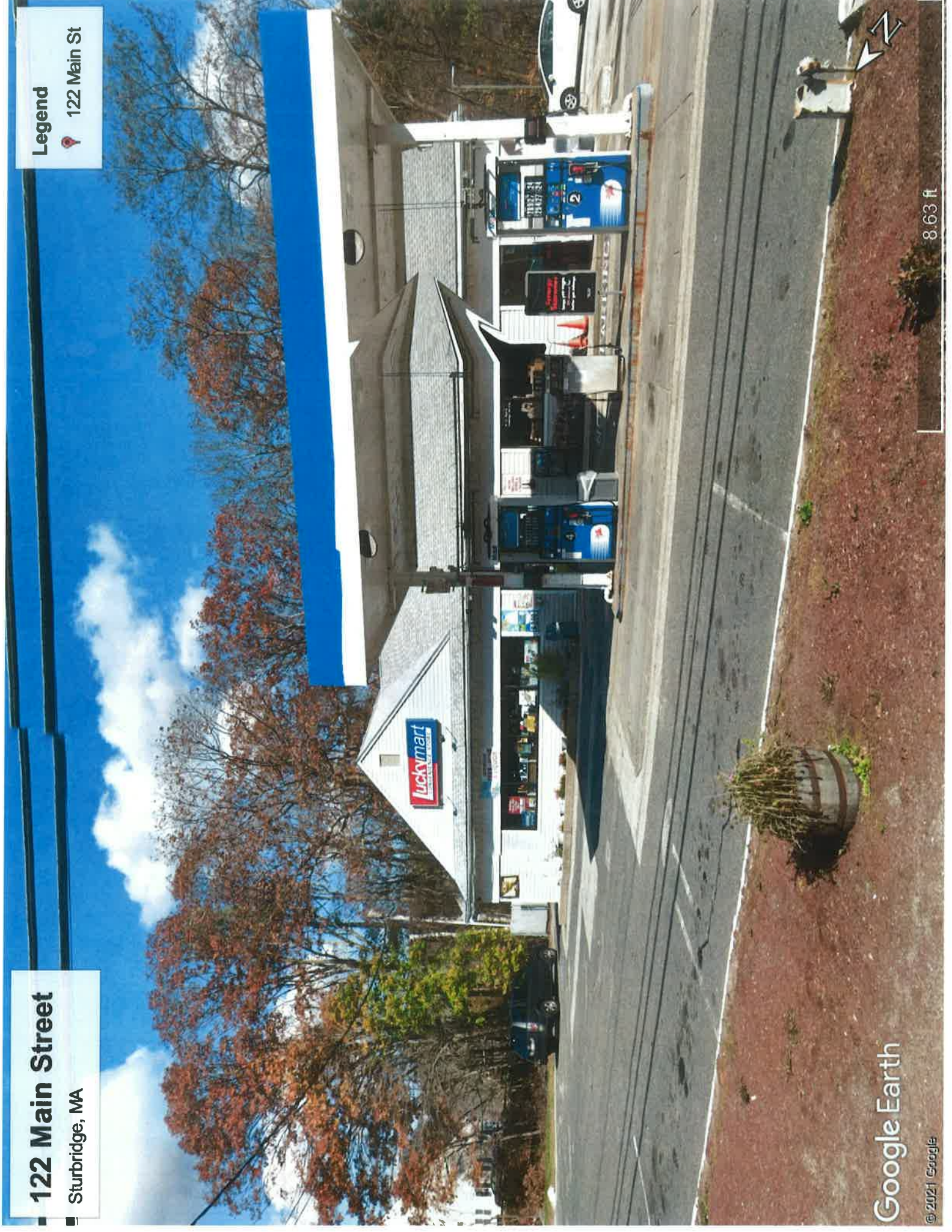
122 Main Street

Sturbridge, MA

Legend



122 Main St



Google Earth

© 2021 Google

8.63 ft

Razar LED Generation

The Ultimate in LED Site Illumination



MADE IN THE
USA

Patents Pending

U.S. ARCHITECTURAL
LIGHTING

Family of Products

Ultimate Application Flexibility

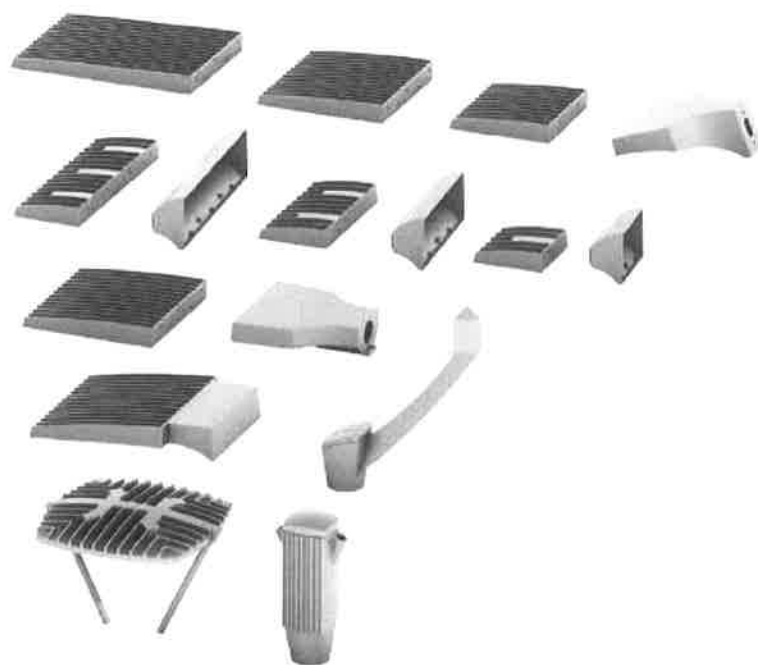
The era of LED's is upon us. This source technology has impressed itself on the field of lighting in a manner never before seen. Now is the time for a generation of luminaires that leverage the power and flexibility, the precision and longevity LED's bring to the world of illumination.

Now is the time for the Razar LED Generation.

The Razar LED Generation satisfies all the performance illumination requirements in the market today with a cohesive family of side arm pole mounted, wall mounted, post top mounted and mast arm luminaires including bollards. Multiple sizes keep the appearance balanced and in scale regardless of the mounting height and the aesthetic language maintains architectural harmony.

The optical components are consistent throughout all luminaires that make up the Razar LED Generation as are their capabilities - field rotatability and replacement, the range of drive currents, dimming, the list goes on.

The Razar LED Generation - LED illumination as it should be done.



Heavy Duty Cast Components

The Razar optical housings and arm/electrical compartment components are all constructed of durable corrosion resistant precise low copper aluminum castings with $\frac{1}{4}$ " minimum wall thickness. Prior to finishing, all castings are sand blasted to create a uniform and clean surface for paint adhesion.

Razar LED

Site/Area

Razar LED represents the fullest complement of form and technology in LED illumination. Robust **cast aluminum** housings stand up to all outdoor conditions while creating a form that is both elegant and reflective of its technological core.

Three housing sizes allow for the selection of the most properly scaled luminaire body so that at the selected mounting height the overall assembly looks balanced and harmonious with the architectural context.

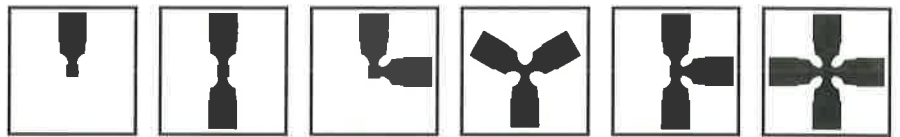
Optically Razar LED allows for the ideal selection of **LED count, color temperature, and drive current** to provide pleasing illumination levels and complementary illumination of the visual terrain. Controlled optics also eliminate uplight (light pollution) and minimize spill light (light trespass) with a **wide variety of distribution patterns** that include **house side shielding** to suit the requirements of the site.

All told it would be difficult to find any luminaire family better suited to fulfill the task of LED illumination other than **Razar LED by U.S. Architectural Lighting.**

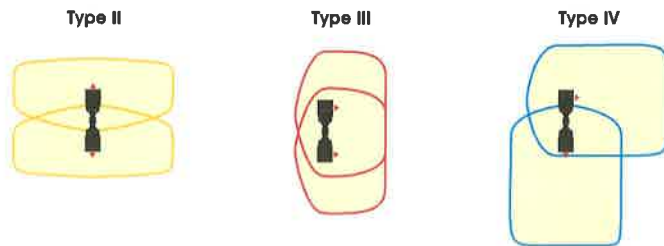


Site Adaptive Pole Mounting Configurations

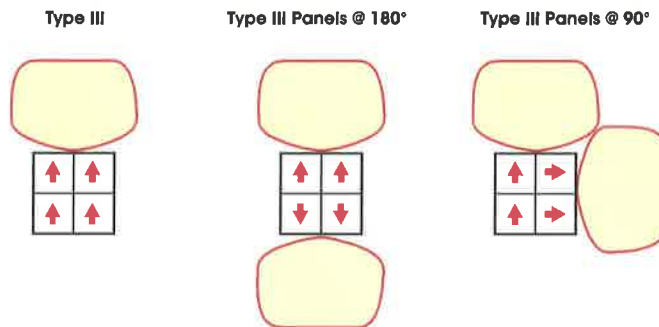
The ability to rotate asymmetric optical patterns by 90° increments combines with a wide variety of luminaire mounting configurations to allow complete illumination coverage of any site.



Examples of the flexibility of distribution coverage from twin mount luminaires @ 180°:



In addition, the individually rotatable panels create the same effect by rotating the panels in a single luminaire independently.



MEMORANDUM

Date: June 9, 2021

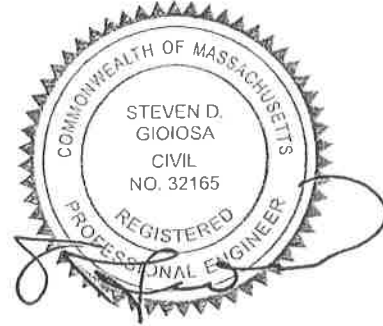
To: Conservation Commission
Town of Sturbridge

From: SITEC, Inc. a Part of Civil & Environmental Consultants, Inc.
Steven D. Gioiosa, P.E. and Daniel N. Aguiar

Subject: Notice of Intent
Swaminarayan Realty, LLC
DEP File No. 300-1093

Location: 122 Main Street
Sturbridge, MA

CEC Project: 304-106



As a result of the May 26, 2021 comment letter from the peer review consultant, Sherman & Frydryk, we have prepared the following response together with the revised site plans that are attached. The responses listed follow the numbering and order of the May 26th letter.

2. Submission Review for Completeness

- Redevelopment Checklist

Standard #1 – Untreated Discharges

The project as designed incorporates significant upgrades to the stormwater discharge from the paved surfaces of the site. The majority of the site will be captured by the trench drain and routed through the ADS stormwater treatment system. The discharge from this system will be directed to a grassed swale and bio-retention area. The small bypass flow will be directed to the crushed stone filter strip, grassed swale, and bio-retention area prior to discharge to the downgradient wetland system.

There are no existing treatment systems or outfalls on this site.

Standard #2 – Peak Rate Control / Flood Prevention

The project as designed will not result in an increase in impervious area. In fact, the elimination of several excess paved areas will result in a slight reduction in impervious area. Additionally, the placement of two roof recharge systems will eliminate a significant source of surface runoff.

The result will be a net reduction in peak flow and runoff volume for this site.

Standard #3 – Recharge to Groundwater

With a reduction in impervious area and the implementation of the roof recharge systems noted above, recharge volume will be increased versus existing conditions to the maximum extent practicable given the site constraints associated with the ledge outcrops.

Standard #4 – 80% TSS Removal

The removal of 80% total suspended solids (TSS) is provided for the project with the implementation of parking lot sweeping, the ADS Water Quality Unit, grassed swale, crushed stone filter strip and bio-retention system.

Grades and ledge considerations limit the options available for treatment beyond these measures. All exposed surfaces will be stabilized and the Operation and Maintenance Plan incorporates provisions to repair any erosion that occurs after completion of the project.

The systems employed were limited to the need to avoid disturbing the adjacent stable slope that separates the site improvements from the adjacent resource area.

The current plan has been enhanced with the addition of the filter strip and bio-retention area.

Standard #5 – Higher Potential Pollutant Loads (HPPL)

Pollution prevention is outlined in the previously filed Construction Erosion Sediment Control Plan. For the long term operation of the facility, all employees will receive training on spill prevention and cleanup and standard spill kits will be

maintained onsite in the event of a minor release. All of the new gas dispensing equipment are designed with emergency shutoffs, leak detection alarms, with a new Positive Limiting Barrier installed around the pump islands.

The new stormwater systems together with the state-of-the-art dispensing equipment will greatly enhance the water quality treatment capability of this site.

Standard #6 – Critical Areas

No Applicable.

Standard #7 – Redevelopment Project

The redevelopment will not increase the impervious area and the project is limited to the existing developed portion of the site.

Standard #8 – Construction Period Pollution Prevention and Erosion & Sedimentation Control

As previously noted, a construction period erosion control plan has been prepared for this project.

Standard #9 – Long Term Operations and Maintenance Plan

An Operation and Maintenance Plan has been prepared for this project (copy attached).

Standard #10 – Prohibition of Illicit Discharges

An illicit discharge statement is included in the Operation and Maintenance Plan.

- The long term pollution prevention plan is included in the Operation Maintenance protocols. Implementation of these measures will insure long term prevention of pollution.
- Operation and Maintenance Plan is attached for review.
- An illicit discharge compliance statement is attached.

3. **Additional Materials Required**

The requested additional materials are described in the preceding section.

4. **Jurisdiction Review**

No response required.

5. **310 CMR 10 Compliance**

No Response Required.

6. **Stormwater Regulation Compliance**

Based on the Redevelopment Checklist information and the modifications to the design to include a filter strip, grassed swale and bio-retention area, maximum practicable compliance to the Standards has been met.

The attached plans depict the supplemental stormwater treatment measures that have been added to the plan.

Please feel free to contact me should you have any questions or comments regarding these changes.

cc: Sherman & Frydryk
DEP – Central Regional Office
Swaninarayan Realty, LLC

OPERATION & MAINTENANCE PLAN STORMWATER MANAGEMENT SYSTEM

1. Stormwater Management Owner:

OWNER: Swaminarayan Realty, LLC
122 Main Street
Sturbridge, MA 01566

2. Responsible Parties:

During the construction period, the Owner's contractor will be responsible for the Operation/Maintenance of the system. When the construction is accepted, the responsibility for the maintenance will shift to the System Owner.

3. Schedule and Inspection/Maintenance:

- A. The trench drain shall be inspected quarterly and accumulated sediments and debris shall be removed and legally disposed of offsite.
- B. The ADS water quality unit shall be inspected quarterly and the attached manufacture's inspection and maintenance protocols shall be followed.
- C. The grassed swale shall be mowed as needed and sediments removed during the quarterly inspections noted above. Repair of any observed erosion shall be completed following the inspection. Temporary stabilization during non-growing seasons may be employed if necessary to stabilize the area.
- D. The bio-retention area shall be inspected monthly and any observed erosion shall be immediately repaired. Re-mulching shall be completed as needed. During the spring and fall inspection period, remove and replace any dead vegetation. If invasive species are observed, they shall be removed during the inspection process. Full mulch replacement shall occur every two years. Mulching shall occur in the spring. If the system fails, replacement of the media and replanting of the system shall occur. This activity shall be completed in the spring. Prune vegetation as needed.

- E. During construction, the contractor shall inspect all erosion control barriers and drainage structures after every rainfall event. The erosion control barriers shall be repaired as needed and accumulated silt and debris shall not be allowed to wash into the adjacent areas. After all construction is completed, the project area shall be cleared of any sediment or debris.
- F. Routine parking lot sweeping and trash and debris removal shall be part of the normal site maintenance process.

4. Access

Access to the stormwater systems will be available from the upland portion of the site.

5. Public Safety

The contractor will comply with all OSHA regulations during construction. Competent and trained personnel will accomplish the cleaning and maintenance of all stormwater systems.

Inspection

An inspection should be performed when the system is installed. This allows the owner to measure the invert prior to accumulation of sediment. This survey will allow the monitoring of sediment build-up without entering the system, thereby eliminating the need for confined space entry. Documentation of pre-inspection data should be captured.

Procedures

1. In the By-Pass Structure inspect for blockage. Inspect the diversion structure and weir for damage and sediment buildup. Any damage should be repaired and sediment should be removed as required.
2. On the Water Quality Unit, locate the risers. The risers will be 24" in diameter.
3. Remove the lid of each riser. It is recommend that this be done one at a time so an open riser is not left exposed during inspection or maintenance of the other risers.
4. In the 24" riser over the Sediment Chamber, inspect the amount of floatable debris. Then measure the sediment buildup with a measuring device such as a Sludge Judge® Also inspect that the inlet pipe does not have any blockage. Blockage inspection is better suited after unit is vacuumed. Any confined space entry would be done through this riser and OSHA requirements must be followed.
5. In the 24" riser over the Oil Chamber, measure / inspect the oil depth.
6. Inspect structure and components for any damage.
7. Replace all riser lids.

Maintenance

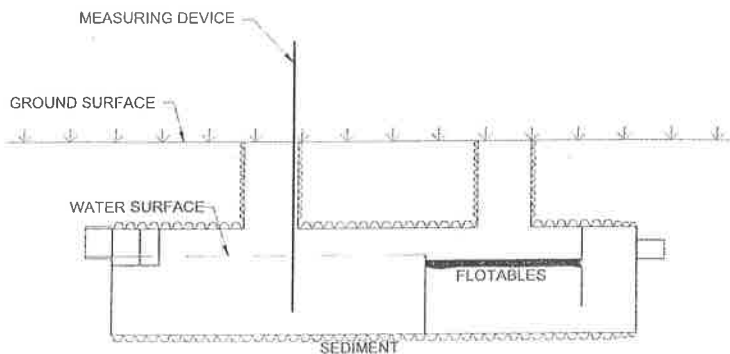
Cleaning should be performed if ***sediment volume has reduced the storage area by 20% or if the depth of sediment has reached approximately 25% of the diameter of the structure (See Table 1 for cleanout depth information).*** Furthermore, the system may need cleaning in the event a spill of a foreign substance enters the unit.

Inspection Procedures (Measuring Sediment Depth)

1. Lower measuring device into sediment riser of unit.
2. Read measurement at ground surface.
3. Subtract the current measurement reading from the distance between the ground surface to the invert of the SWQU (obtained when unit was first installed or is clean).
4. Compare calculated difference to the respective value in Table 1. If resulting value is equal to or greater than the respective value on the Table 1, maintenance shall be performed. The figure below illustrates the inspection procedure.

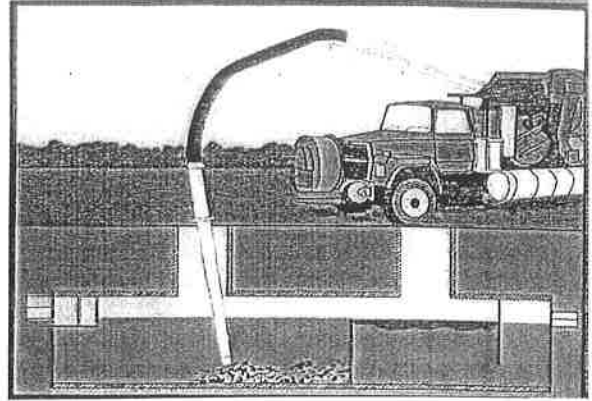
**Table 1
Sediment Depth at Cleanout**

Model Number	Diameter (in)	Sediment Depth (in)
3620WQ	36	9
3640WQ	36	9
4220WQ	42	10
4240WQ	42	10
4820WQ	48	12
4840WQ	48	12
6020WQ	60	15
6040WQ	60	15



Cleaning Procedures

1. Insert vacuum hose into By-Pass Structure and pump out. Inspect By-Pass Structure for any damage.
2. Insert vacuum hose into 24" riser and pump out the Sediment Chamber. Pressure wash this Chamber if needed. Inspect for any damage. Inspect the inlet pipe for any blockage. Also inspect weir plate for damage.
3. Insert vacuum hose into other 24" riser. This will pump out the Oil Chamber. Inspect for any structural damage. Pressure wash this Chamber if needed.
4. Refill water quality unit with water.
5. Replace all riser lids.



The owner or operator is responsible for meeting all federal, state, and local laws and regulations during the maintenance and cleanout operations.

Material Disposal

Owners are responsible for complying with all federal, state, and local regulations when disposing of material collected from the storm water quality unit. Water and sediment from cleanout procedures should not be dumped into sanitary sewer.