# PROJECT DESCRIPTION STATEMENT

**Proposed fuel service station, including storage at basement level, class 4b shop, tyre service garage, ATM and car wash facilities at ground floor level**

**at**

***Triq Burmarrad, Burmarrad, San Pawl il-Baħar***

**Tracking Number 159681**

**Dr. Joe A. Doublet** Ph.D.(Wales)

**Applicant**

**Construction & Turnkey House Ltd; Attn: Mr. Joe Attard**

**Architect**

***Perit*** **Joe Grech** B.E.&A. (Hons), A. & C.E.

**April 2015**

The Project Description Statement is prepared in accordance with the Terms of Reference as found in Section 5(3) of the Environmental Impact Assessment Regulations, 2007 (L.N. 114 of 2007), a copy of which is found in Appendix I.

## Declaration

The information about the proposal has been supplied by the applicant and his architect and the author has verified to the best of his ability that such information is correct.

Dr J A Doublet

8th April 2015

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# 1 Introduction

The proposal is for the construction of a new fuel station including storage facilities, class 4b shop, tyre service garage, ATM and car wash facilities at Bumarrad Road, St Paul's Bay (Site Plan 1). The site will consist of two levels, an underground level used for storage and also areas for separators, fuel tanks and water reservoirs (Site Plan 2 and Site Plan 6). The ground floor level will include an ATM machine, fuel pumps, gas filling station, electrical car charging facility, shop and tyre service garage, security room, landscaped areas, car wash facilities and parking bays (Site Plan 3). The car wash facility, drying areas and fuel pumps will be covered with separate canopies (Site Plan 4). An application was submitted on the 14th January 2015 following which the Malta Environment and Planning Authority (MEPA) requested this Project Description Statement (PDS). Construction on the project will commence once all planning and operational permits are approved.

Construction & Turnkey House Ltd, have been involved in the construction and Real Estate industry since 2001. The company has lately decided to restructure and diversify its interests in the construction and running of a Fuel Station. The company intends to construct a new fuel station to meet the current market demands and utilizing the latest equipment and abiding by the latest standards necessary at this point in time.

## 1.1 PDS Structure

This development may fall under Schedule I of the Environmental Impact Assessment (EIA) Regulations (LN 114/2007). Accordingly, a Project Description Statement (PDS) is being prepared. Such a Statement will help the MEPA determine whether an EIA is required and as a result prepare the necessary Term of Reference (ToR), if necessary.

Table 1 describes the MEPA guidelines for the PDS as shown in Appendix I and the corresponding sections in this document.

| Section in PDS | MEPA PDS Guidelines |
|---|---|
| 1 | (a), (b), (c), (d) |
| 2 | (g), (h), (i), |
| 3 | (b) |
| 4 | (b) |
| 5 | (e), |
| 6 | (c), (f), (j), (k), (l) |
| 7 | (m) |

## 1.2 Details of Applicant:

**Name of Company**: Construction & Turnkey House Ltd (C 29833)
**Directors**: Joe Attard, Twanny Ciappara
**Address**: Red Rose, Triq il-Gurbell, Paola PLA 1832
**Tel Numbers**: 79445563, 79515051
**Email**: samatha_2872@hotmail.com

# 2 Description of site

The proposed development site lies just off the *Triq Burmarrad*, an arterial road which leads to the village of *San Pawl il-Baħar* (Photo 2 and Photo 3).

The proposed development site is mainly made up of an abondoned field a few meters situated alongside an alley leading to a villa and a number of fields (Photo 1 and Site Plan 1).

The approximate area of the development site is 3,222m$^2$ with an overlaying volume of soil equivalent to 1,570 m$^3$.

The proposed development site is currently overgrown with wild flowers and patches of wheat and cereal probably originating from seeds either left over from previous cultivation or transported by wind from neighbouring fields. The site is irregularly shaped and surrounded with a rubble wall.

There are water, sewage and electrical services along *Triq Burmarrad*, which is the road leading to the proposed.

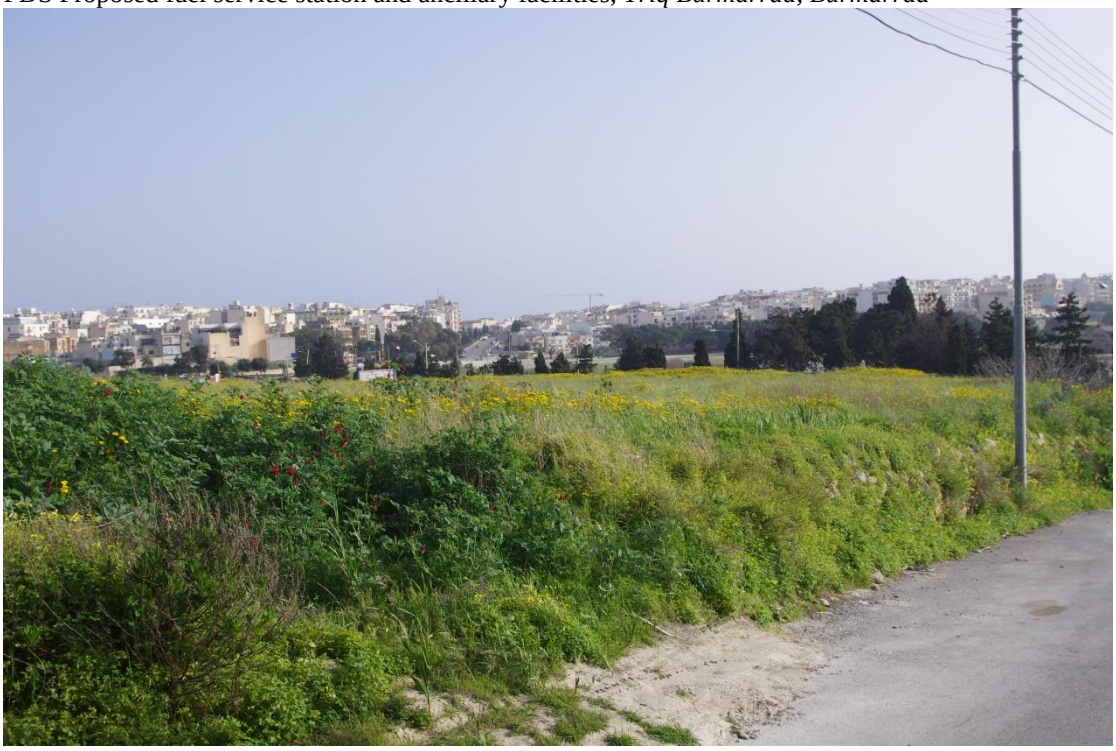


**Photo 1: View of development site taken from adjacent road leading to fields.**

**Photo 2: View of development site including access road from across *Triq Burmarrad* (south view).**

**Photo 3: View of development site including access road from across *Triq Burmarrad* (north view).**

**Photo 4: Access path from road adjacent to development to *Burmarrad* Commercials**

**Photo 5: Pillbox shown in field just behind proposed development site**

**Photo 6: Access path to fields from road adjacent to development**

## 2.1 Surrounding Land Uses

The adjacent land uses are mainly agricultural in nature, the only exceptions being that of a residential villa a few metres uphill along the entrance to the site. Two other residences are located about 200m south west of the propsoed development and about a 100m east of the development just across the road. A building which was used as a winery is located about 70m to the east of the proposed development site while a cemetery is found about 50m to the north east, along *Triq Burmarrad*. The adjacent road to the development off *Triq Burmarrad* is used mainly by farmers to access their fields (Photo 6), residents in the villa just up the road and also by Burmarrad Commercials who have an access from this road overlooking their premises found on *Triq Burmarrad* (Photo 4). A war time Pillbox is found in the adjacent field overlooking the proposed development site (Photo 5). A bus stop is also found along Triq Burmarrad just in front of the proposed deevlopment site (Photo 3).


**Photo 7: Aerial view of proposed development site and surrounding land usage (Google Earth)**

# 3 Objective of development

The objective of the development is to address the shortage of modern fuel stations in the locality and cater for the demand of fuel due to the ever increasing number of vehicles on the roads. Furthermore, the proposed development would also be able to cater for the shortage of fuel stations which have remained at the same level or decreasing for a number of years, in spite of the ever increasing number of vehicles on the roads.

The closest fuel station to the proposed site sells diesel and is found about 670m to the south along the same street just within the village core of *Burmarrad*. Another small fuel station is found around 500m due north at the entrance of St Paul's Bay. The largest fuel station comparable to the one being proposed is found at *Buqana*, limits of Rabat, which is about 5.7Km away.

## 3.1 Network traffic and Access

Vehicles heading from Mosta towards St Paul's Bay and desiring to make use of the facility will have to turn left, onto a road leading into the fuel station. (Site Plan 5). Both entrance and exit areas are found along *Triq Burmarrad, Burmarrad*.

Vehicles using the existing narrow road alongside the entrance would be still be able to do so in the same manner.

# 4 Justification

The number of vehicles on the island has been continuously increasing over the years, with an increase of almost 100,000 registered vehicles during the last fourteen years (Figure 1). This necessitates the need for additional fuel stations equipped with the essential modern facilities such as car wash and valeting services together with efficient fuel dispensers serving fuel 24/7. Furthermore, modern fuel stations usually also offer tyre service and shops serving car accessories and car care items and snacks. The introduction of gas powered vehicles which are rapidly increasing also necessitates the availability of gas in fuel stations. Such provisions are being catered for in the proposed fuel station. The facility will offer an ATM service for one of the local banks. The facility will also offer charging bays for electric vehicles.

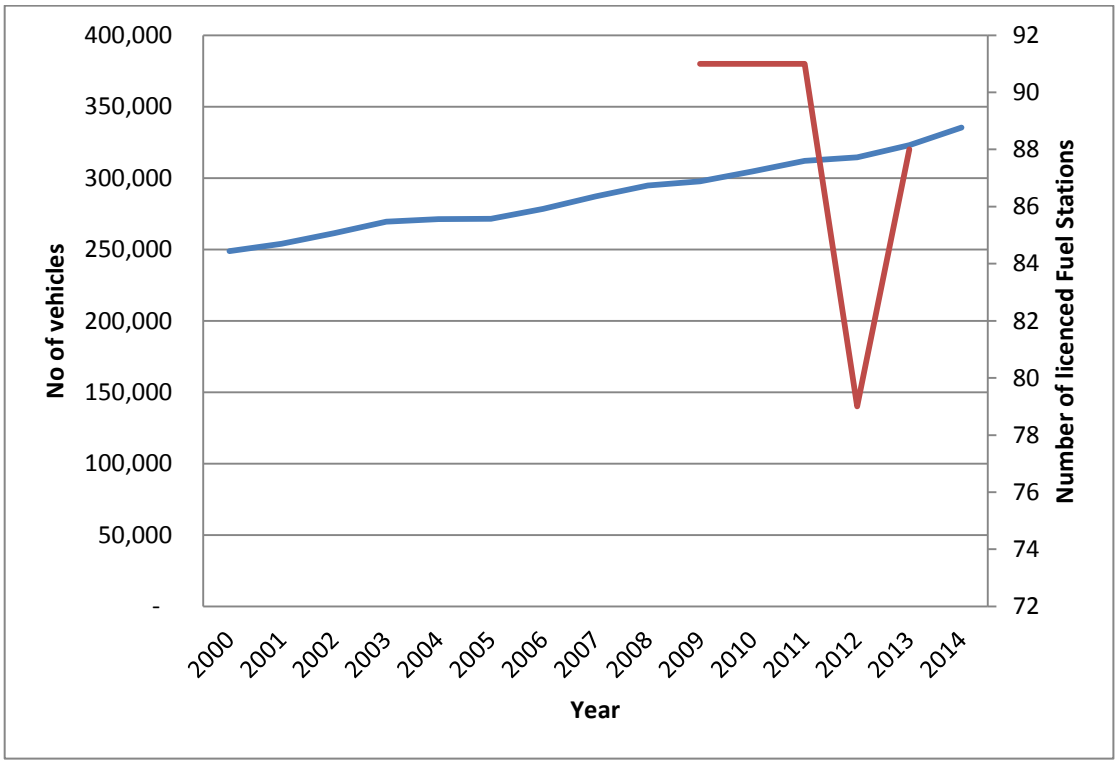



**Figure 1; Graph showing the number of registered vehicles on the road during the period 2000-2014 compared to number of licenced fuel stations. (sources: NSO press releases and MRA annual reports 2010-2014)**

During the period 2009-2011 there were 91 licenced fuel stations in Malta[1] whereas in 2012 there were 76 who renewed their licence, 2 were transferred while 1 new licence was issued[2]. In 2013, there were also 2 transferred licences and another new one was issued but there were 85 which were renewed[3]. This indicates that lately there was a drop in the licences which were renewed and an increase in the number of transferred licences and new licences. There is no data showing the storage capacity of fuel on the islands which could have increased following modernisation of a number of stations. However, the drop in the number of stations compared with the ever increasing number of vehicles on the roads necessitated the need for further stations which should have the necessary standards in order to abide by current EU directives (e.g. vapour recovery systems) and other standards employed by the fuel industry and local regulations about the location of such stations.

[1] MRA annual reports 2010-2012;
[2] MRA annual report 2013;
[3] MRA annual report 2014;

# 5 Alternatives

## 5.1 Alternative Sites

The developer carried looked at other sites prior to settling for the one under consideration. The first site which was considered was next to the Water reservoir found at Qormi Road, *Luqa*. The problem with this site is that it is close to a borehole being used for human consumption and hence was not acceptable to MRA. Another site which was considered was at Ta' Qali and once again, MRA objected due to the proximity of another borehole. A third site which was considered was in the proximity of St Dorothy's School at Mdina Road, *Żebbuġ*. In this case there was no agreement about the price being requested and the deal didn't get through. The proposed site was eventually considered and was acceptable to MRA and eventually an application was submitted with MEPA for this site.

## 5.2 Alternative Technologies

### 5.2.1 Construction

The construction phase will include the clearing of site, excavation and construction phases. The alternative to the use of machinery for the clearing of site and exaction are those of using manual labour which would increase the costs significantly, apart from being of great hardship to the workers. The best available technology is that of using shovels to clear the site, however, it is also important to reduce drop heights when loading onto trucks and also to spray the materials with a fine mist of water in order to reduce the dispersion of dusts. Lorries are legally obliged to keep the material covers when travelling on the roads. The excavation could again either take place by means of excavators/ hymacs, by hand or else by means of explosives. The best

technology to be operated on site would be that of using excavators/ hymacs. Explosives would not be suitable to excavate such an area both due to the dangers involved and the need to stop cars every time these are detonated. Manual excavation is not considered an option for reasons already mentioned. The alternative to building using bricks or stone is that of either using shuttering or concrete systems or else bring ready made prefabricated structures on site. Prefabricated structures would need to be prepared elsewhere and transported by lorry on site and then transferred by means of a large crane at the desired place. This concept of building is relatively new to Malta and is only limited to roof structures and concrete ducting and it is rather expensive and laborious to transfer the items from one place to another when a cheaper alternative could be easily used. The best available technology is that of using bricks or globigerina limestone dimension stone for buildings. Pre-stressed structures are used for ceilings or to roof wells or tank structures.

### 5.2.2 Equipment

There are three different types of USTs in the market, these being:

- Double skin steel storage tanks;
- Single skin steel tanks;
- Glass reinforced plastic tanks (double or single skin).

All these type of tanks are up to European Standards. The main advantage of a double skin storage tanks over a single skin one is that the interstitial space is filled with an appropriate liquid and a probe which would detect any leakages either from the inside or the outside of the tank immediately. This would ensure that any tank leakage would be detected immediately and action could be taken without delay. The choice for steel over glass reinforced tanks is that the former are of a much better material than the

latter and they are less fragile especially during transport and handling. In order to avoid any leakage problems the choice was made for the double skinned steel tanks complete with a class 2 interstitial leak detection system. The tanks have a 30 year anti corrosion guarantee. Apart from this the tanks will be placed in a specially constructed leak proof chamber in order to ensure the retention of any potential leaks which could occur.

The type of pipe work which is used in fuel stations could be either galvanised steel, polyethylene or glass reinforced plastic. Although all three are acceptable, the choice was for the polyethylene pipes. These are available either as 100 m coil lengths or in 6 m lengths depending on the diameter of the pipes. The 6 m lengths can be joined together by means of special thermo-weldable junction boxes which would make the joint leak proof by a seal made by an electric current. The coil lengths are ideal because one would avoid using any joints under the floor surface and so avoid any potential leaks. The pipes being used are in accordance with EN 14125:2004. The choice of this material over the other two was made due to the fact that in the case of steel pipes one would need a number of joints underground, thus increasing the possibility of a potential leak. In the case of glass reinforced plastic pipes, as in the previous case these are rather fragile and could create problems when connecting them to steel joints.

The choice of a suction line system over the pressure line system was made because in the former case the liquid is sucked up and so in case of leakage, air would be drawn in and the liquid would return back into the tank once it is not being pumped. In the pressure line system, the line is always under pressure and so in case of leakage, fuel

would keep going out of the line unnoticed. This is being done in spite of the fact that the former system requires more pumps and more pipe work and so is more expensive but safer.

The unloading system which is being proposed is the offset filling system whereby the tanker truck is located away from the underground storage tanks (USTs) and unloading takes place close to the tanker and in one area. An alternative to this system is the direct filling whereby the tanker unloads directly into each and every individual UST, thus the unloading area would be all the area of the UST. This would increase the risks of fire and vapours on the fuel station during unloading to a much larger area than by the proposed system. It would also entail that the tanker truck would need to stop at different places to unload or else use longer hoses crisscrossing the forecourt, thus increasing the danger.

Stage 1b and Stage 2 vapour recovery are mandatory through EU legislation. The station will be equipped with both vapour recovery systems in order to reduce volatile organic compounds (VOCs) in the air and also in view of the forthcoming requirements. The impacts created by failing to install the vapour recovery systems would be more VOCs in the air and more health hazards, apart from a breach to respective the EU Directives.

#### 5.2.2.1 Operation

The use or absence of vapour recovery systems will not be dealt again under this section since this has already been done above.

The Class 1 forecourt separator is important since it would prevent any fuels from ending up in the sewer network or the street either as a result of mixing of fuels with runoff water or heavy spillages during unloading operations. Its absence would imply hydrocarbons ending up in the sewer network or downstream.

The use or absence of the Class 2 car wash fuel separator would have similar implications.

The forecourt separator will have a sedimentation tank connected to it so that solids found in the liquids entering the separator will be deposited in the sedimentation tank and not in the separator, thus reducing maintenance costs to clean the separator more frequently. In case of the absence of a separator and the sedimentation tank, this would imply that the sediment would be transferred into the sewer system with the consequential effects.

The car wash class 2 fuel separator will have a sedimentation tank connected to it so that solids found in the liquids entering the separator will be deposited in the sedimentation tank and not in the separator, thus reducing maintenance costs to clean the separator more frequently. In fact, in this case the quantities of sediment are bound to be more than that of the forecourt due to the fact that there would be a considerable amount of sediment resulting from the car washing facility. In case of the absence of a separator and the sedimentation tank, this would imply that a considerable amount of sediment would be transferred into the sewer system with the consequential effects.

A summary of the alternative technologies and corresponding impacts is shown in Table 1, Table 2 and Table 3.

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*

**Table 1: Alternative technologies/ activities for the construction phase**[4]

| | Technology/ Activity | Associated Impacts | Type of Impact | |
|---|---|---|---|---|
| | | | Positive | Negative |
| Construction | Use of mechanical equipment | Quicker and more efficient to build structures | √ | |
| | | Cutting of bricks/ stone will generate dusts which are dispersed in the surroundings | | √ |
| | Manual excavation | Will take longer to build | | √ |
| | | Will be more laborious | | √ |
| | | Could be considered as a potential heath hard to the employees | | √ |
| | | More expensive to produce | | √ |
| | Use of explosives | Need to close road for every blasting session | | √ |
| | | Would weaken foundations | | √ |
| | | Possible dispersal of stray rocks in neighbouring fields | | √ |
| | | Vibrations could be transmitted even to neighbouring residential area. | | √ |
| | | Not easy to excavate correct dimensions of excavated areas as designed on plan. | | √ |
| | Use of bricks/ dimension stone | Easier to build | √ | |
| | | Cheaper to build | √ | |
| | | Potential dispersal of dusts from cutting of material | | √ |
| | Use of prefabricated parts | Could be cumbersome to carry along the roads to construction site | | √ |
| | | More expensive to produce | | √ |
| | | Need large equipment to put up and different skills than normal building works | | √ |
| | | More laborious to build | | √ |
| | Use of ducting for fuel pipe work | In case of any leaks from the pipe work these would be drained in the contained area where there are the fuel tanks and hydrocarbon probe thus the alarm that hydrocarbons are leaking is sounded. | √ | |
| | Absence of ducting for fuel pipe work | In case of any leaks from the pipe work these would be drained in the substratum and it might take a long time before they are detected. They can only be detected either by a reconciliation exercise undertaken by the management or else because the fuel pump would become inefficient. | | √ |

[4] Text in blue shows the Best Available Technique/ Technology (BAT) which will be used.

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*

**Table 2: Alternative technologies/ activities for the construction (equipment) phase**[5]

| | Technology/ Activity | Associated Impacts | Type of Impact | |
|---|---|---|---|---|
| | | | Positive | Negative |
| Construction (equipment) | Double skin UST | Safer than single skin versions | √ | |
| | | More expensive | | √ |
| | | Leaks would be detected immediately | √ | |
| | Single Skin UST | Leaks are not retained by second skin | | √ |
| | GRP (single/double Skin) | More fragile and of a higher degree of risk that others | | √ |
| | Galvanised steel pipe work | More joins increasing possibility of risks | | √ |
| | Polyethylene pipes | Lower degree of risk either due to no joints or thermo welded joints | √ | |
| | Glass reinforced pipes | Offer a higher degree of risk that others due to possibility of leaks at joints and connection points | | √ |
| | Suction line system | In case of damaged pipe work, air if likely to be sucked in rather than fuel leaked out. | √ | |
| | Pressure line system | In case of damage to pipe work, fuel will leak out under pressure. | | √ |
| | Offset filling | The high risk area is limited | √ | |
| | Direct filling | The high risk area is spread over a larger area. | | √ |
| | Stage 1 b vapour recovery | Most of the fuel vapours leaving the fuel tank of vehicle are returned back to the UST | √ | |
| | No Stage 1b vapour recovery | Most of the fuel vapours leaving the fuel tank of vehicle and are dispersed in the air with the consequential health and environmental consequences | | √ |
| | Stage 2 vapour recovery | Most of the fuel vapours leaving the UST are collected in the tanker truck to be recovered in the fuel depot. | √ | |
| | No Stage 2 vapour recovery | Most of the fuel vapours leaving the UST are dispersed in the air with the consequential health and environmental consequences. | | √ |
| | Presence of hydrocarbon detection probe in fuel tank containment area | Fuel leakages which accumulate in the containment area would be detected immediately. | √ | |
| | Absence of hydrocarbon detection probe in fuel tank containment area | Fuel leakages which accumulate in the containment area would not be detected very easily. | | √ |

[5] Text in blue shows the Best Available Technique/ Technology (BAT) which will be used.

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*

**Table 3: Alternative technologies/ activities for the operation phase**[6]

| | Technology/ Activity | Associated Impacts | Type of Impact | |
|---|---|---|---|---|
| | | | Positive | Negative |
| Operation | Use of Stage 1 b vapour recovery | Most of the fuel vapours leaving the fuel tank of vehicle are returned back to the UST | √ | |
| | No use of Stage 1b vapour recovery | Most of the fuel vapours leaving the fuel tank of vehicle and are dispersed in the air with the consequential health and environmental consequences | | √ |
| | Use of Stage 2 vapour recovery | Most of the fuel vapours leaving the UST are collected in the tanker truck to be recovered in the fuel depot. | √ | |
| | No use of Stage 2 vapour recovery | Most of the fuel vapours leaving the UST are dispersed in the air with the consequential health and environmental consequences. | | √ |
| | Use of Forecourt Fuel Separator | Retention of hydrocarbons and spillages on forecourt from ending up in ecologically sensitive areas further downstream with the resulting consequential effects. | √ | |
| | Absence of Forecourt Fuel Separator | Hydrocarbons and spillages on forecourt would end up in ecologically sensitive areas further downstream with the resulting consequential effects. | | √ |
| | Use of car wash fuel separator | Retention of hydrocarbons from ending up in ecologically sensitive areas further downstream with the resulting consequential effects. | √ | |
| | Absence of car wash fuel separator | Hydrocarbons would end up in ecologically sensitive areas further downstream with the resulting consequential effects. | | √ |
| | Use of sedimentation tank on forecourt | Sediments are retained and prevented from entering the sewage network | √ | |
| | Absence of sedimentation tank on forecourt | Sediments would end up entering the sewage network with the consequential effects | | √ |
| | Use of sedimentation tank for car wash area | Sediments are retained and prevented from entering the sewage network | √ | |
| | Absence of sedimentation tank for car wash area | Sediments would end up entering the sewage network with the consequential effects | | √ |
| | Collection of water from canopy and roofed areas in water reservoir for use in car wash facility | Rain water is reused in car wash facility rather than lost as run off | √ | |
| | Water from canopy and roofed areas is discarded | Rain water is lost as run off and potable water is used for car water facility thus increasing the pressure on this vital resource | | √ |

[6] Text in blue shows the Best Available Technique/ Technology (BAT) which will be used.

### 5.2.3 Alternative Layouts

Two alternative layouts (Site Plan 6) were considered with the one under consideration (Site Plan 3). The alternative layouts are labelled Alternative Layout 1 and Alternative Layout 2.

Alternative Layout 1 shows a slightly smaller shop located at the corner of the plot with three parking spaces in front of it and a drying area for four cars on the northern side of the plot. The refuelling bay is still located at the centre while the gas refuelling tank is located close to the exit. The carwash area and the fuel discharge point are still in the same place as that shown in Site Plan 3.

Alternative Layout 2 has a smaller number of car parking spaces than that under consideration and a much smaller shop. The car wash facility is next to the shop with the drying area located at the northern western corner of the plot. The gas tank is located at the southern part of the plot while the refuelling bay is still located at the central part of the plot. The fuel discharge point is still in the same position as that shown in Site Plan 3.

The reasons for choosing the layout being proposed on Site Plan 3 are:

- A larger shop area when compared to the two alternative layouts;
- A larger drying area for the car wash facility thus having less cars waiting and blocking the entrance to the station;
- More car parking spaces for clients are found in Site Plan 3 than in the other two alternative layouts;

- The location of the gas tank in Alternative 1 could create problems with flow of vehicles and trucks existing station whereas the layout in Site Plan 3 doesn't have similar problems;

It is evident that the layout shown on Site Plan 3 leads to better facilities which could be offered with the available land and lower levels of impact for customers using the site.

# 6 Phasing of Development

## 6.1 Construction Phase

This phase will involve the removal of soil and rubble walls from the site together with the excavation need to reach the desired levels according to proposed plans. Soil will be deposited to appropriate site approved by the Department of Agriculture whereas all inert constriction waste will be deposited at a licenced inert waste facility. Excavation will take place using an excavator/ hymac, shovel and trucks for the transport of material.

Construction will take place using dimension stone, bricks, concrete and steel structures. Material will be transported on site by means of trucks and low loaders. A crane will be permanently used on site to lift construction materials, however an additional crane could also be employed if need be when large structures such as the canopy would be erected.

Installation of underground tanks, forecourt separator and oil/water filtration equipment will take place during the construction phase whereas installation of surface equipment will take place during or once the finishes of the buildings are completed.

The construction phase is earmarked to take about eight months.

No servicing of vehicles will take place on site.

The maximum number of workers on site during this phase shouldn't exceed 12. On site parking will be provided for all workers during this phase of development.

The estimated quantities of material excavated from the site is shown in Figure 2 while the estimated quantities of materials used during the construction phase is shown in Figure 3.

| | | *Height* | |
|---|---|---|---|
| Total Site Area: | 2949 sq.m. | 1.43 | 4217.07 cu.m |
| | 2949 sq.m. | 2.21 | 6517.29 cu.m |
| | | Sub-Total: | 10734.36 cu.m |
| Basement: | 612 sq.m. | 3.8 | 2325.6 cu.m |
| Reservoir: | 112 sq.m. | 3.9 | 436.8 cu.m |
| Tank Farm: | 256 sq.m. | 4 | 1024 cu.m |
| | | Sub-Total: | 3786.4 cu.m |
| | | Total: | **14521 cu.m** |

**Figure 2: Quantities of material excavated from site**

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*

| | | | | |
|---|---|---|---|---|
| PCS: | | *Thickness* | | |
| Basement: | 612 sq.m. | 0.45 | | 275.4 cu.m |
| Ground Floor: | 247 sq.m. | 0.45 | | 111.15 cu.m |
| Reservoir: | 112 sq.m. | 0.45 | | 50.4 cu.m |
| Tank Farm: | 256 sq.m. | 0.45 | | 115.2 cu.m |
| | | | Total: | **552 cu.m** |
| HCB: | | *Thickness* | *Height* | |
| Basement: | 127 m | 0.46 | 3.56 | 208 cu.m |
| Ground Floor: | 91 m | 0.23 | 2.89 | 60 cu.m |
| Reservoir: | 48 m | 0.46 | 3.5 | 77 cu.m |
| Tank Farm: | 106 m | 0.23 | 3.6 | 88 cu.m |
| | | | Total: | **434 cu.m** |
| Infill HCB: | | *Thickness* | *Height* | |
| Basement: | 127 m | 0.18 | 3.56 | 81 cu.m |
| Reservoir: | 48 m | 0.18 | 3.5 | 30 cu.m |
| | | | Total: | **112 cu.m** |
| Concrete Flooring: | | *Thickness* | | |
| Basement Floor: | 612 sq.m. | 0.15 | | 92 cu.m |
| Reservoir Floor: | 112 sq.m. | 0.15 | | 17 cu.m |
| Tank Farm Floor: | 256 sq.m. | 0.15 | | 38 cu.m |
| Forecourt: | 2949 sq.m. | 0.15 | | 442 cu.m |
| | | | Total: | **589 cu.m** |
| Reinforcement (A252 Mesh): | | | | |
| Basement Floor: | | | | 612 sq.m. |
| Reservoir Floor: | | | | 112 sq.m. |
| Tank Farm Floor: | | | | 256 sq.m. |
| Forecourt: | | | | 2949 sq.m. |
| | | | Total: | **3929 sq.m.** |
| Rubble Walls: | | *Thickness* | *Height* | |
| Forecourt: | 59 m | 1.2 | 10 | 708 cu.m |
| Forecourt: | 182 m | 0.88 | 3 | 480 cu.m |
| | | | Total: | **1188 cu.m** |

**Figure 3: Quantities of materials used during construction phase.**

## 6.2 Operation Phase

The proposed facility will offer:

- Car wash and valeting facilities;
- Electrical vehicle charging points;
- Customer parking facilities;
- Gas filling facility;

- Biodiesel, unleaded and diesel fuel pumps;
- Tyre service garage;
- Basement level storage facilities;
- Class 4b shop for the sale of spare parts, accessories and other ancillaries;
- ATM machine.

The site will have the latest technology used in fuel stations in accordance with current standards used by the Malta Resource Authority (MRA) and so have facilities for stage 1b and 2 vapour recovery, leakage detection, fuel and oil interceptors, fire detection and suppression facilities. All standards for equipment and technology used on site is shown in Appendix II.

The maximum number of people working on site during this phase will be 5-6. On site vehicle parking will be provided for them.

# 7 Environmental Impacts

The potential environmental impact linked to this proposal during the construction are those which are associated with the generation of dust, Airborne dust could arise as a result of:

- Loading of inert material from trucks;
- Shifting of material inside the development site by shovels;
- The re-entrainment of settled dust by wind or machine action;

Larger dust sized particles (>10 microns) will usually settle within a short distance from where they are generated and so would be retained within the area. It is only the smaller sized particles (< 10 microns) which become airborne and could be carried around by the wind for very long distances. Dry material would also easily become airborne especially when compared to wet material. In fact, airborne dust is predominant during the warm summer months where the convection warm air currents complicate the problem even further.

It is therefore recommended that dust suppression methods are utilised on site. These together with diligent working practices would reduce the dispersion of dust from the site.

Examples of good working practices which could be employed are:

- Wetting of dust laden tracks especially those which start accumulating fine dust;
- Regular washing of the entrance route to prevent the accumulation of dusts released from truck tyres;

- Unloading heights should be kept to the barest minimum;
- Dust generating activities such the use of chasers on stone should be limited and diligent use of dust recovery machinery should be implemented especially when using chasers and sanders.

Dust can have a negative effect on the surrounding agricultural activity especially fine particles settling on leaves which reduce the photosynthetic activity of the vegetation. During the operational phase, odours resulting from the dispensing of fuels should be attenuated as a result of the vapour recovery systems installed on site. The existing residences in the vicinity are found to the north east downwind from the site while another one is found the east south east of the site, none of which should suffer from any inconvenience from any dispersed vapours during fuel filling procedures.

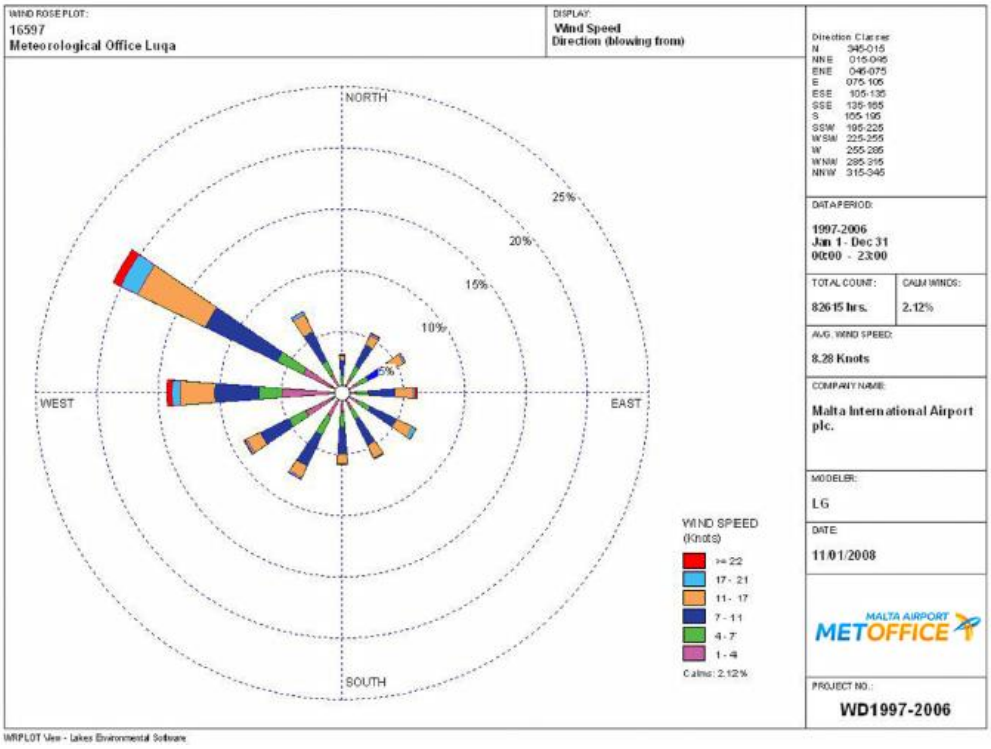



**Figure 4: Wind rose for the period 1997-2006**

The prevalent wind direction on the Maltese Islands is from a westerly direction, predominantly west north west (Figure 4). This implies that the anyone downwind

from these predominant winds could be adversely affected if there are release of any vapours from the site. This should not be the case due to the vapour retention equipment which will be installed on site.

The visual impact on the surrounding landscape should be limited mainly due to the fact the fields surrounding the site are going to end up at a higher point than it's forecourt and most of the structures. Landscaping the north side would also attenuate any impacts from viewpoints due north. A number of trees just before the site entrance should cover most of the structures due to be constructed. The use of earth colours should further attenuate any remaining impacts.

The impact on agriculture is considered to be minimal and limited to the field where the development is proposed. Currently the field is not being used but even when this was the case the amount of produce was minimal. The type of soil found on site and the lack of irrigation facilities limit its use to rain irrigated crops such as animal fodder. Such crops are of limited financial benefit to their owners.

The site lies outside the groundwater safeguard zone although still within the *Burmarrad* water catchment area. Fuel and oil interceptors will be incorporated within the facility in order to address any issues with regards to spillages from fuel or oils during transfer operations. Furthermore, the site will be equipped with leakage detection systems for the underground fuel tanks and connection tubing which will be housed within specially built sealed underground chambers.

The only known cultural heritage site in the vicinity of the development site is found in the adjacent field. This consists of a damaged pill box reminiscent of the world war. The other feature which could be of cultural interest in the vicinity of the site is the Cemetery which is found across the road. None of these sites should be affected in any way by the development.

There are no scheduled sites or protected species in the proximity of the development, hence no impacts on ecological resources are envisaged.

The three residential buildings found in the proximity do not constitute a residential area and should not be directly affected by the development.

The development should not produce any significant noise levels during the operational phase. The only limited noise which could be generated is during the excavation phase resulting from the rock excavation on site. Such impact should be temporary in nature limited to a few weeks until the necessary levels are obtained.

# APPENDIX I

## Terms of Reference for Project Description Statement which may lead to an Environmental Impact Assessment

### PROJECT DESCRIPTION STATEMENT GUIDELINES
### (based on Regulation 5 of LN 114 of 2007)

The purpose of a Project Description (PDS) is to enable MEPA:-
(I) take a screening decision (whether an Environmental Impact Assessment (EIA) is required and, if in the affirmative, whether this requires an EIS or an EPS, and
(II) prepare the terms of reference for such an EIA.

The Project Description Statement (PDS) should be a concise and a standalone document that provides a sufficiently detailed description of the proposed project in relation to the site and surroundings, including operations that are to take place during construction and operation. The PDS should address the mandatory specifications identified in Regulation 5(3) of the EIA Regulations, 2007 so as to enable the relevant processing and decision-making, including conclusive determination of whether a development proposal requires an Environmental Impact Assessment (EIA). If an EIA is
required, the PDS will also serve as an important tool to identify which environmentally-relevant aspects, tailor-made to the proposal, need to be investigated further through the EIA process. The PDS can be prepared by the developer, architect or consultant.

**PDS Guidelines:**

(a) Details of the person wishing to carry out the development;
(b) A brief description of the project and its general objectives;
(c) An indication of the proposed timing of the project and why this timing was preferred;
(d) The location of the proposed development with site boundaries clearly shown on a map;
(e) A concise but reasonably comprehensive indication of the alternative uses, alternative technologies and suitable alternative locations and sites for the proposed development and alternative arrangement of land uses, on the proposed site;
(f) A description of the physical characteristics including size, scale, design and phasing of the development using models, photographs, diagrams, plans and maps where appropriate;
(g) A description of present land uses and environmental characteristics of the site;
(h) A brief description of surrounding land uses, their nature, their extent and their environmental characteristics;
(I) A description of the services, water, foul water sewers, surface water drainage, including storm water drainage, and energy sources available on site;
(j) Estimates of the number of persons to be employed with estimates for each phase of the development;
(k) The nature and quantities of raw materials and energy to be used, and wastes generated during construction and operation; the proposed method of storage or handling of materials and wastes, and machinery needed during both the construction and the operational phases;
(l) Access arrangements, parking requirements and parking arrangements on and off the site, during both construction and operation;
(m) List of the major environmental impacts likely to be generated by the project, including reference to cumulative impacts, proposals for mitigating the negative effects of the development.

**The above information should be provided as far as is relevant to: the given stage of the consent procedure; the specific characteristics of the project; and the environmental features likely to be affected.**

# Appendix II

## *Reference Standards*

1. ***APEA***

   Design, Construction, Modification, Maintenance and Decommissioning of Filling Stations

2. ***ATEX 94/9/EC***

   Equipment and protective systems intended for use in potentially explosive atmospheres

3. ***BS EN 3:2009***

   Portable fire extinguishers

4. ***BS EN 124:1994***

   Gully tops and manhole tops for vehicular and pedestrian areas – Design requirements, type testing, marking, quality control.

5. ***BS EN 858-1:2002 Incorporating Amendment No. 1***

   Separator systems for light liquids (e.g. oil and petrol) – Part 1: Principles of product design, performance and testing, marking and quality Control.

6. ***BS EN 858-2:2003***

   Separator systems for light liquids (e.g. oil and petrol) – Part 2: Selection of nominal size, installation, operation and maintenance.

7. ***BS 3799:1974***

   Specification for steel pipe fittings, screwed and socket-welding for the petroleum industry

8. ***BS 4089:1999***

   Specification for metallic hose assemblies for liquid petroleum gases and liquefied natural gases

9. ***BS/PD 5500:2009***

   Specification for unfired fusion welded pressure vessels

10. ***BS 5839-1:2002***

    Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance

11. ***BS 6651:1999 – Incorporating Corrigendum No. 1 and Amendment No. 1***

    Code of practice for protection of structures against lightning.

12. ***BS 6724:1997 – Incorporating Amendments Nos. 1 and 2***

    Electric Cables – Thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300V, having low emission of smoke and corrosive gases when affected by fire.

13. ***BS EN 12285-1: 2003***

    Workshop Fabricated Steel Tanks – Part 1: Horizontal cylindrical single skin and double skin tanks for the underground storage of flammable and non-flammable water polluting liquids.

14. ***BS EN 13616: 2004***

    Overfill prevention devices for static tanks for liquid petroleum fuels.

15. ***BS EN 13617-1:2004 (Incorporating Corrigenda Nos. 1 and 2)***

    Petrol filling stations – Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units.

16. ***BS EN 14125:2004***

    Thermoplastic and flexible metal pipework for underground installation at petrol filling Stations.

17. ***EN 10204-3:2004***

    Metallic materials. Types of inspection documents

18. ***EN 14214:2003***

    Automotive fuels. Fatty acid methylesters (FAME) for diesel engines. Requirements and test methods

19. ***European Directive 97/23/CE***

    Pressure Equipment Directive

20. ***European Directive 94/9/CE***

    Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)

21. ***IP***

    The Institute of Petroleum

22. ***MRA COP A1:2010***

    Design, installation and Operation of Vessels located above ground

23. ***MRA COP D***

    Ancillary Equipment

24. ***PAS 26:1998***

    Manhole tops intended for use on service station forecourts and pavement areas – Requirements, performance and marking.

25. ***PPG3 – Pollution Prevention Guidelines***

    Use and Design of Oil Separators in Surface Water Drainage Systems.

26. ***MRA Automotive Refuelling Facilities Code C3***

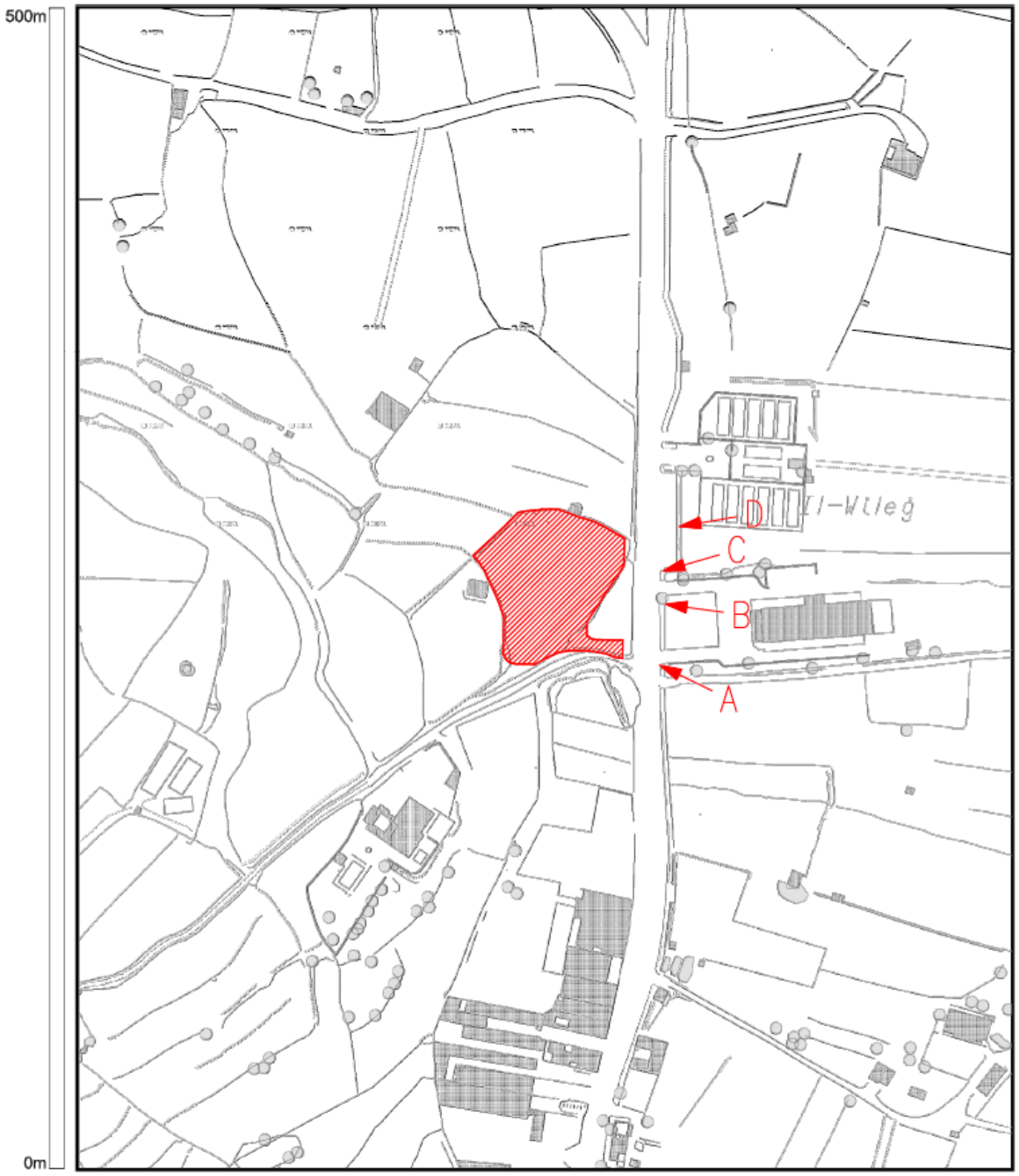
27. ***MRA COP C3:2010***

    Automotive LPG Re-fuelling Facilities

# SITE PLAN 1

33a

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*

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**Site Plan, Scale 1:2500**
Printed on: Friday, November 21, 2014

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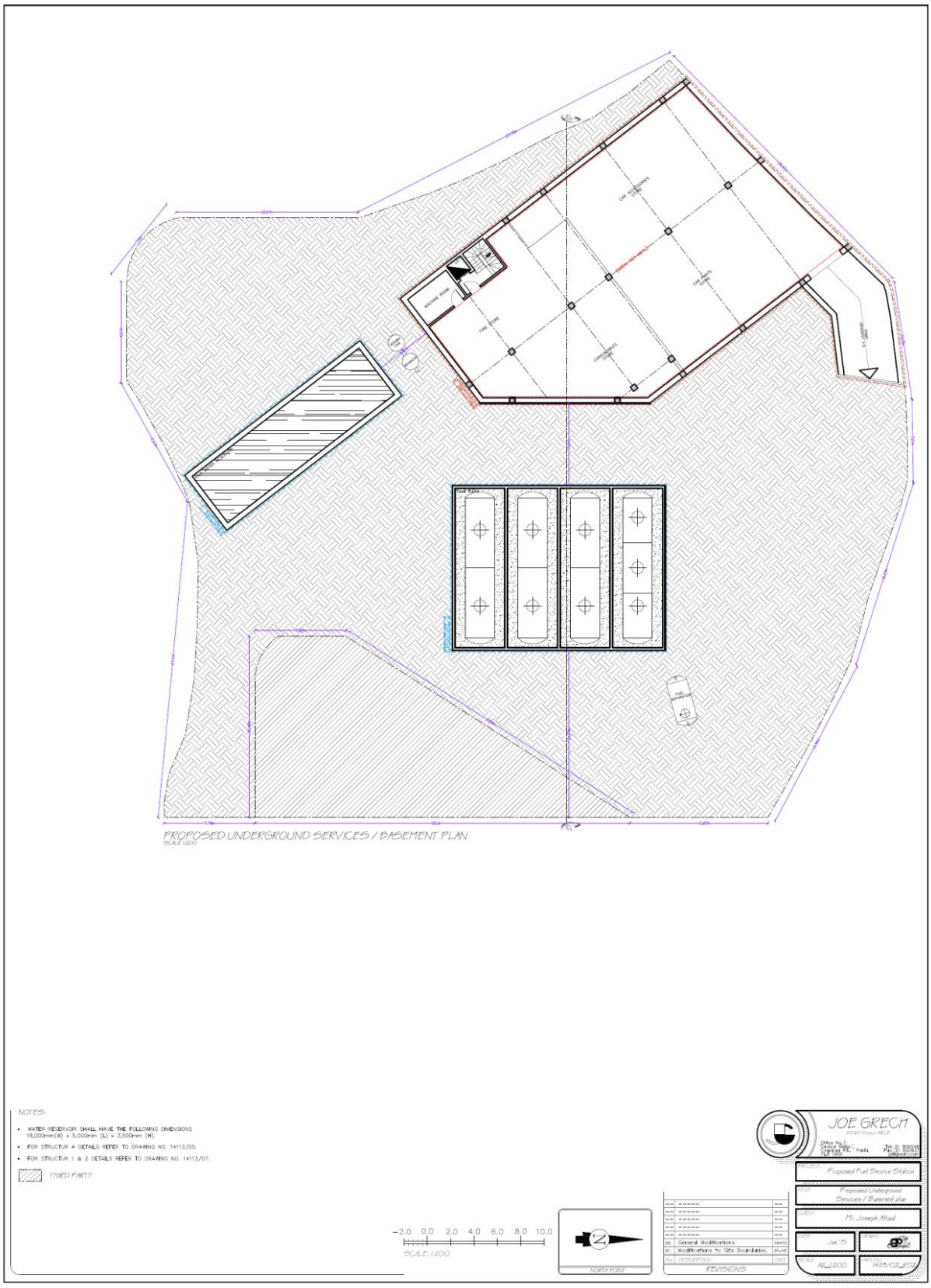
Not to be used for interpretation or scaling of scheme alignments

# SITE PLAN 2

33a

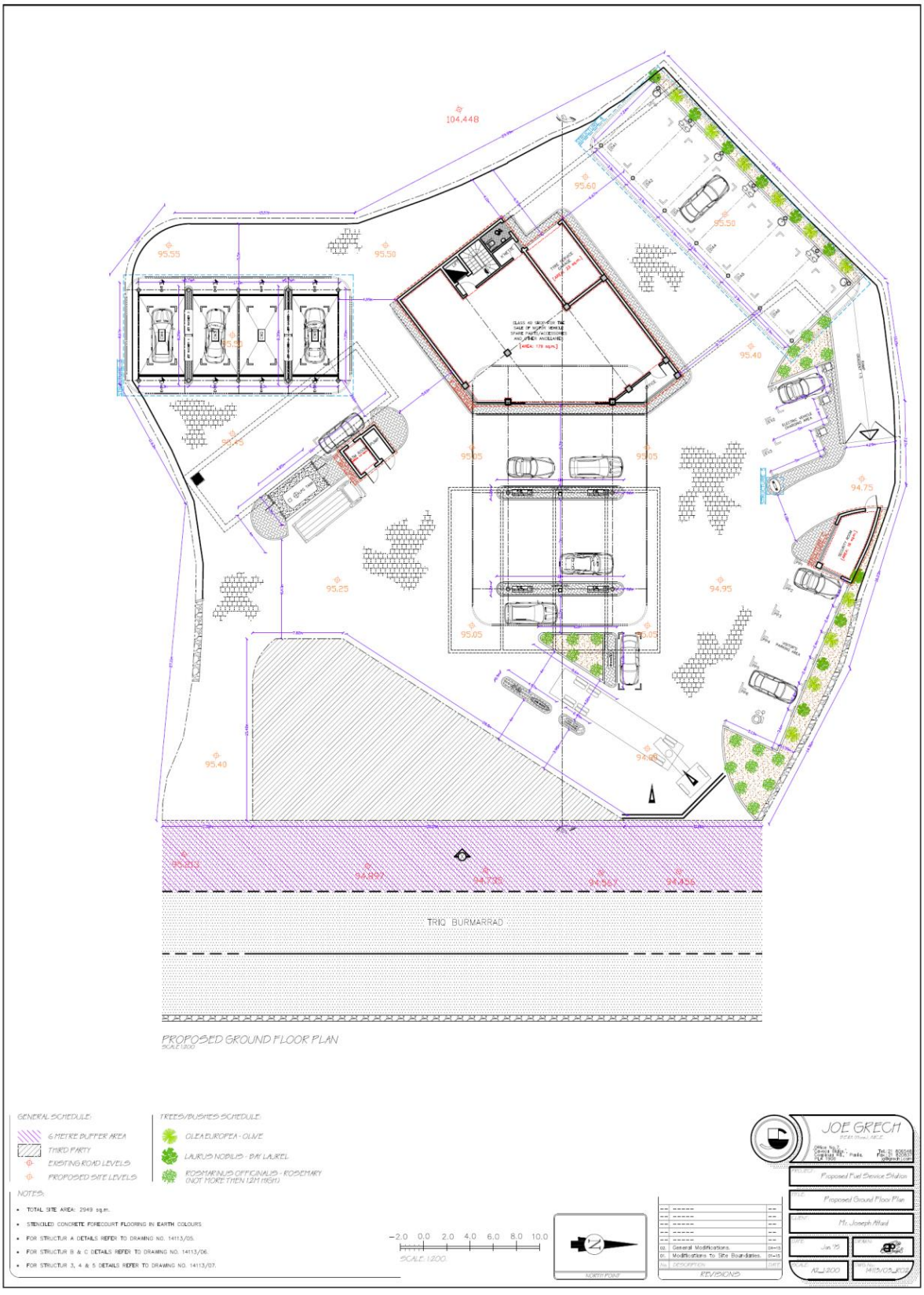
PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*



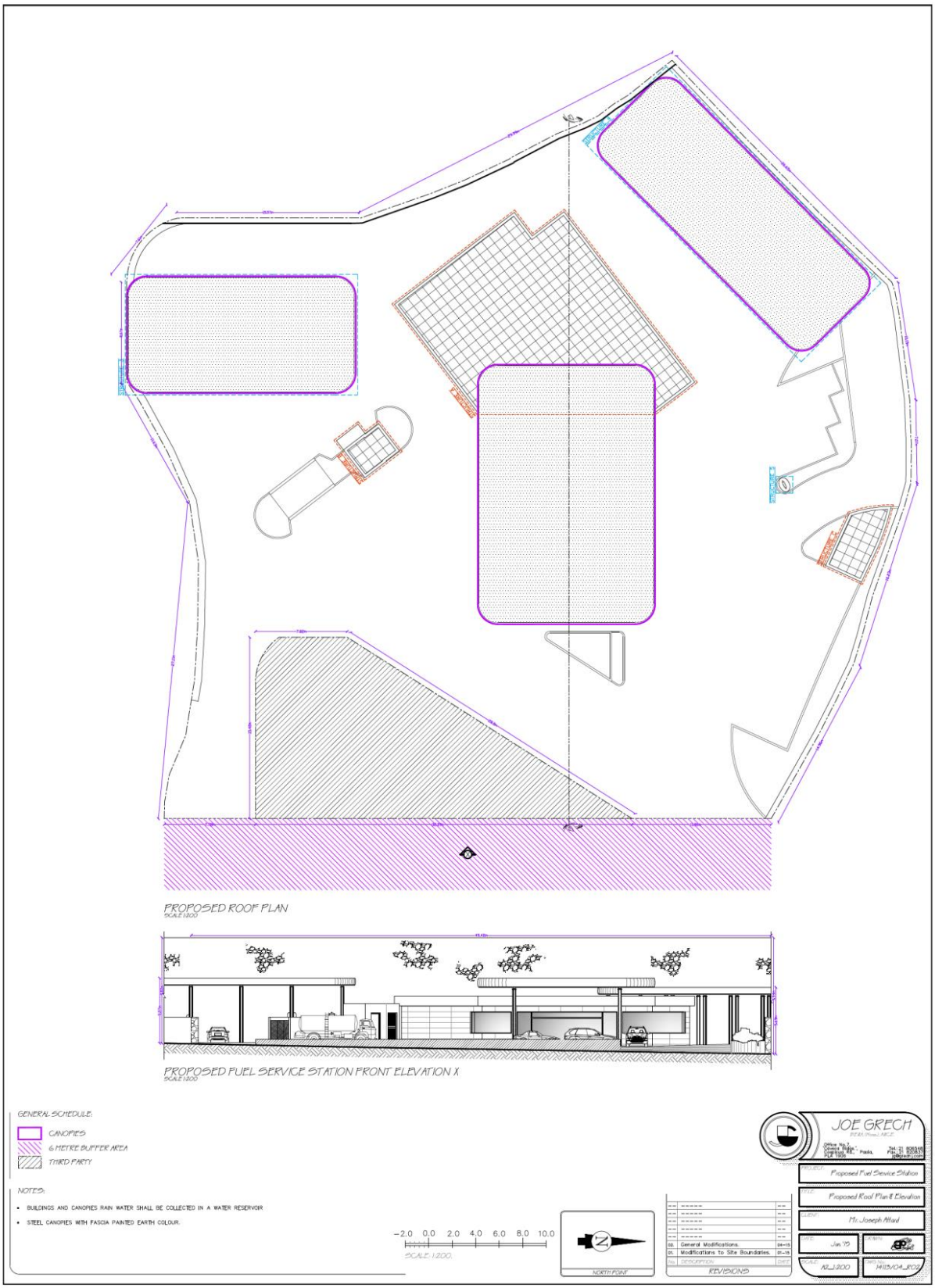
# SITE PLAN 3

33a

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*



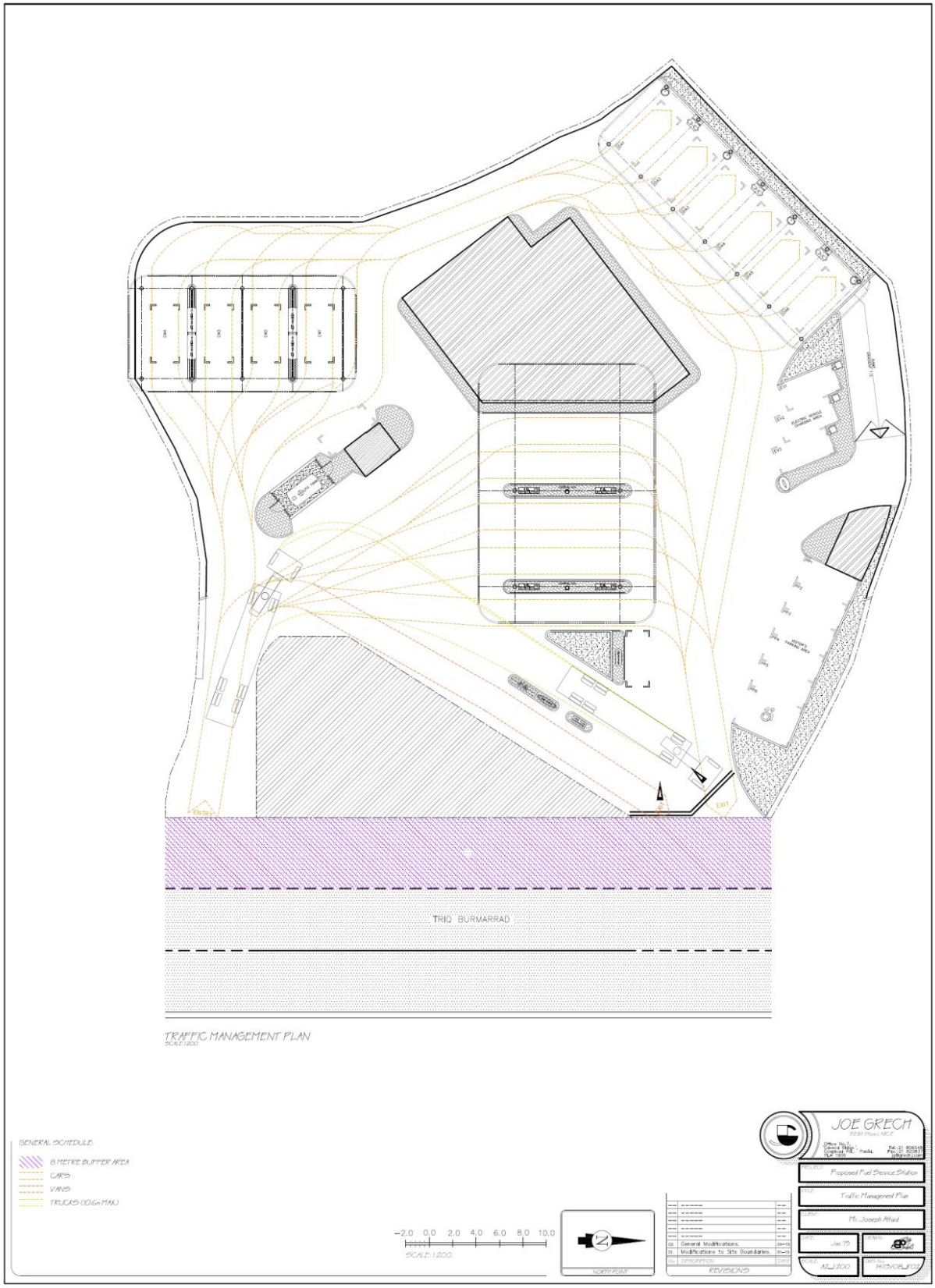
# SITE PLAN 4


PROPOSED ROOF PLAN
SCALE 1:200
PROPOSED FUEL SERVICE STATION FRONT ELEVATION X
SCALE 1:200
GENERAL SCHEDULE:
CANOPIES
6 METRE BUFFER AREA
THIRD PARTY
NOTES:
BUILDINGS AND CANOPIES RAIN WATER SHALL BE COLLECTED IN A WATER RESERVOIR
STEEL CANOPIES WITH FASCIA PAINTED EARTH COLOUR.
-2.0 0.0 2.0 4.0 6.0 8.0 10.0
SCALE 1:200
NORTH POINT
JOE GRECH
Proposed Fuel Service Station
Proposed Roof Plan & Elevation
Mr. Joseph Attard
Jan '15
A1_1:200
H15/04_R01
03. General Modifications. 04-15
01. Modifications to Site Boundaries. 01-15
REVISIONS

# SITE PLAN 5

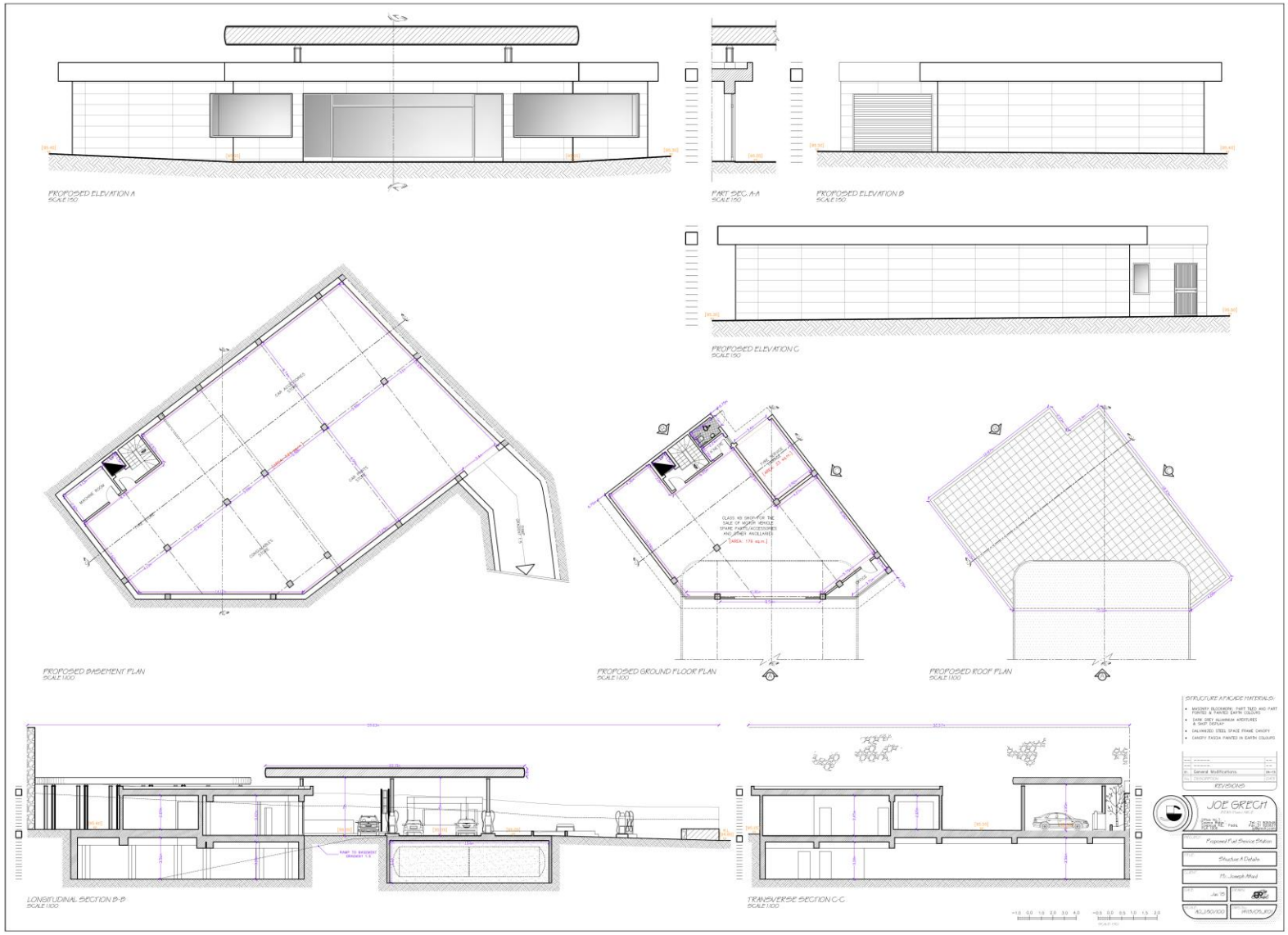
33a

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*



# SITE PLAN 6

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*



# SITE PLAN 7

PDS Proposed fuel service station and ancillary facilities, *Triq Burmarrad, Burmarrad*