

# **SUMMARY OF MITIGATION MEASURES**

## **Chapter Nineteen**

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### **Introduction:**

The measures proposed to mitigate the potential impacts of the project are described throughout this FEIS. Some of the measures can be summarized as follows:

1. Traffic impacts will be mitigated by the additional of turning lanes on Route 312 and improved traffic signals at Exit 19 Eastbound and Westbound ramp, International Boulevard, North Brewster Road and at Route 6. If NYSDOT agrees, a traffic signal will be added at the Applebee's intersection on Independent Way ( See Chapter 15).
2. The development will generate \$1.7 million dollars in property tax revenue per year and \$8,000,000 per year in sales tax revenue. These revenues will benefit the town, school district and county as described in Chapter 6.
3. The plan includes a hotel and has reduced retail building size.
4. Energy conserving building features will be incorporated into the building design.
5. Stormwater will be treated and infiltrated as required by NYSDEC and NYCDEP (See Chapter 13).
6. Existing and proposed vegetation will screen the development.

The specific mitigation measures include-

1. Land Use & Zoning

The proposal to modify zoning to place decision making regarding all large retail establishments under the review and approval of the Town Board will potentially simplify the approval process which now is divided among two boards. The proposal would allow the Town elected officials to review all aspects of a project and make a decision which most benefits their perception of the town needs.

2. Community Services

The existing service providers police, fire, and emergency medical services, have indicated the property can be protected with present levels of staff and equipment.

3. Economic Conditions

The project is being proposed to provide services primarily to the Market Area as shown on Map #11. The project will generate significantly more jobs, both during construction and during operation than does the existing use of the property.

The proposed development will generate total property tax at a rate 65 times the present use of the parcel, \$27,423 today versus (\$1,743,250) after development.

Today no sales taxes are generated from the site. When constructed, it is estimated, Putnam County will gain approximately \$3,000,000 in sales tax annually.

Over 330 +/- permanent jobs will be provided. These jobs will improve employment rates in the Market Area.

#### 4. Visual Resources

The buildings will be designed carefully with elements included to break up the massing and create a human scale as per Section 138-63.4 of the Zoning Regulations. Existing trees will be maintained where possible, and significant new planting of trees and shrubs added to soften and filter views. Some views of the site will be possible from isolated distant spots on the elevated hillside in the North Brewster Road area. However, extensive planting of trees on the site will screen most of these distant views, see Illustration #15.1 and Map #24.

The studies proposed along Route 312 suggest the 75' Environmental Conservation Buffer will significantly screen the proposal from view as shown on Maps #16 & 17. The hotel will be the most prominent building on the property, see Illustration #16. The retail building roof lines will remain lower than the highest elevation of the ridgeline to remain. No development will be visible from Route I-84 or from the East bound interchange of I-84 and Route 312. The preservation of existing trees on the site, resulting from a redesign of the proposed stormwater system will screen the development from the Zimmer Road intersection area of Route 312, see Illustration #17. Cross sections shown on Maps #18 and Illustrations #10 & 11 confirm the development will be screened from I-84 and Route 312.

Views from the Brewster Hill and Tonetta Lake area have been much discussed. Members of the community remain unhappy about existing views of the retail project called "The Highlands." Cross-sections were evaluated of both the FEIS proposal and the Highlands. FEIS proposal will sit below the level of the ridgeline and slightly lower in elevation than the Highlands. The Highlands sits atop a ridge and has no background screen. The FEIS proposal depicts re-vegetation of disturbed slopes and introduction of screen plantings to mitigate disturbance, see Map #16.

Evening views were also created to assess the impact of night time lighting. Through the use of LED lighting, the introduction of screen planting and topographic position of the development, the night time impact of project lighting has been minimized, see Illustration #15.2.

5. Geology

Earthwork will be balanced. There will be no mass export or import of earth products. A phased erosion and sedimentation proposal has been offered which indicates how the site can be developed in five acre sections minimizing exposed soils. Erosion and sedimentation will be contained within the work area. The site will be stabilized during construction as work proceeds. Upon completion of the building construction, at least half of the disturbed area will have been re-seeded and re-vegetated.

6. Water Resources

No ground water will be taken from the property. Existing wells and an existing water distributing system will be utilized, which has capacity for the project.

7. Wetland and Natural Resources Mitigation

Limited disturbance of town wetland buffers is proposed mainly for the installation of linear storm water discharge systems called level spreaders. No wetland disturbance is proposed. The storm water discharges resulting from the project will be spread throughout the length of the project to introduce non-erosive flow in a manner replicating natural conditions. The one year storm will be infiltrated over an 1,800 LF length, introducing storm water to the ground. With the introduction of storm water to the ground, the preservation of the majority of the wetlands wooded buffer and the replanting of the disturbed areas including the introduction of habitat plantings, wetland impacts will be mitigated, see Map #15.

The wetland buffer areas will be replanted following construction of the stormwater facilities, and will continue to provide protection of the downslope wetland areas. The 32.7 acres of upland forested habitat will be permanently lost and replaced with the proposed site development, and all species utilizing that habitat will be displaced. All of the wetlands and most of the forested wetland buffers will be preserved and will provide a linear corridor of unbroken forest and wetland habitat for wildlife movement through the site.

8. Sanitary Sewer

No new surface sewage discharges are allowed in the NYCDEP watershed, therefore the existing sanitary sewage treatment plant at Terravest Corporate Park will be utilized for treating and discharge of sanitary sewer flows. The sanitary flows will include a grey water system which will recycle a portion of the water for reuse. The grey water system reduces both daily demand for water and the quantity ultimately discharged. A grey water system is a green technology designed as an environmental enhancement.

9. Stormwater Management

Stormwater generated during construction will be mitigated through implementation of the SWPPP including the phasing of construction into five acre segments. On a phased basis, disturbances will be stabilized prior to initiating additional phases. Temporary sediment traps will be installed as required prior to discharge into sedimentation basins.

Upon completion of construction, stormwater quality will be treated and storm water quantity will be detained to pre-development levels. Standards of the Town, NYCDEP and NYCDEC for quality and quantity will be met. A treatment train is proposed of many elements each contributing to the enhancement of water quality. Stormwater will be collected in a piped system with catch basins having sumps. The one year (Design Storm) storm will be entirely infiltrated. Storms above the one year event will be treated in bioretention basins and then treated in a micro pool extended detention basins. Storm discharges will meet pre-development conditions for quality and quantity, see Map #17.

In addition, a significant area of existing untreated impervious surface of Route 312 and parts of the I-84 ramp system will be treated on site through the project stormwater system.

#### 10. Traffic and Transportation

As a result of comments from the Town and public, the proposed project has changed. As usch the DEIS evaluated a greater number of vehicle trips than would be generated by the program evaluated in the FEIS . The DEIS program which was comprised of 186,000 S.F. retail and restaurant space. In the FEIS the overall project has been reduced to 143,000 S.F. of retail and restaurant space and a 100-room hotel. The previous development program provided in the DEIS was anticipated to generate 254,729 and 1,004 primary vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours. The proposed development program presented in the FEIS is anticipated to generate 170, 588 and 859 primary vehicle trip ends during the three peak hours, respectively.

Therefore, the proposed development program now being presented will result in a net decrease of 84,141 and 145 vehicle trip ends during the Study peak hours, respectively. The following paragraphs provide a brief description of the methodologies utilized in the analysis of the 143,000 S.F. retail and restaurant space and a 100-room hotel, the results of the analysis, and proposed mitigation. This analysis addresses all comments and concerns presented by the Town's Consulting Engineering firm during the DEIS process. A copy of the updated Traffic Report to reflect the FEIS plan is included in Chapter 15.

Traffic operation conditions along Route 312 and throughout the Study Area roadway network are expected to continue deteriorating by the projects horizon year 2015 without the traffic generated by the proposed development, as traffic volumes are projected to continue to grow 0.8 percent annually and several other planned developments along State Route 312 and in the vicinity of the Study Area are projected to be completed in the near future. Results of the Capacity Analysis and Storage/Queue Analysis for the 2015 no-build conditions indicated that even without traffic volumes associated with the proposed action, there will be significant deficiencies throughout the Study Area along

State Route 312 between U.S. Route 6 and State Route 22 and in the vicinity of the Interstate-84 interchange. The 2015 no-build analysis identifies specific locations that will experience a deterioration in Level of Service, increase in delay and queue lengths (feet) that exceed available storage length (feet). Regardless of whether the proposed Crossroads 312 development is approved the adjacent roadway network will require improvements.

In the analysis, the project traffic engineer found that the results of the 2015 no-build analysis indicate the following key intersections, lane groups and movements will experience significant delays if the project is not built:

1. *Route 312 at I-84 Eastbound Interchange 19 On/Off Ramps and Independent Way*
  - Westbound left-turn lane group total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon peak hour;
  - Southbound left-turn lane group total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon peak hour; and,
  - Eastbound through lane group 95<sup>th</sup> percentile queue length will exceed available storage during the weekday afternoon peak hour.
2. *U.S. Route 6 at Route 312/Access Road*
  - Eastbound left-turn lane group 95<sup>th</sup> percentile queue length will exceed available storage during all three Study peak hours; and,
  - Southbound left-through lane group 95<sup>th</sup> percentile queue length will exceed available storage during the weekday morning and weekday afternoon peak hours.
3. *Route 312 at Independent Way at Applebee's Home Depot Access Drive*
  - Eastbound left, through and right-turn movements average control delay exceed 50.0 seconds/vehicle during the all three Study peak hours;
  - Westbound left, through and right-turn movement average control delay exceed 50.0 seconds/vehicle during the Saturday midday peak hour;
  - Eastbound left, through and right-turn movements 95<sup>th</sup> percentile queue length will exceed available storage during all three Study peak hours; and,
  - Westbound left, through and right-turn movements, 95<sup>th</sup> percentile queue length will exceed available storage during the Saturday midday peak hour.

At this time, any traffic added to the Route 312 Corridor, such as that of the proposed Crossroads 312 development, will only compound future conditions. Therefore, Frederick P. Clark Associates, Inc. has proposed two plans of action to mitigate traffic conditions and the inevitable delays and congestion that will be experienced on Route 312 and the adjacent street system. The first plan of action, "The Recommended

Improvements,” includes several geometric/physical changes to the existing roadway infrastructure to increase the overall capacity of the roadways and intersections through the addition of turning lanes, storage bays and entire roadway lanes where appropriate. It also includes the implementation of Intelligent Transportation System (ITS) infrastructure which will help to optimize traffic signal operations (i.e. signal cycle length, split timing, etc.), provide better coordination between signals and improve the overall progression of traffic throughout the Corridor to reduce stops and delays. Specific road improvements by intersection and approach include:

1. *Route 312 at Route 22/Town Center Access Drive*
  - Eastbound approach: Add a 225-foot right-turn pocket; and,
  - Optimize traffic signal cycle length, splits & offsets.
  
2. *Route 312 at Farm to Market Road/Brewster Hill Road*
  - Fine Tune Traffic Signal Timing Plan.
  
3. *Route 312 at North Brewster Road*
  - Westbound approach: Add 100-foot westbound left-turn pocket; and,
  - Install actuated traffic signal and interconnect.
  
4. *N.Y.S. Route 312 at International Boulevard/Proposed North Access Driveway*
  - Eastbound approach: Restripe for a shared through/right-turn lane;
  - Westbound approach: Proposed north access driveway;
  - Southbound approach: Provide 150-foot left-turn pocket;
  - Northbound approach: Restripe for 200-foot left-turn pocket;
  - Northbound approach: Restripe for a shared through/right-turn lane;

and,

  - Upgrade traffic signal hardware and revise traffic signal timing plan.
  
5. *N.Y.S. Route 312 at Interstate 84 Westbound Ramps/Proposed South Access Driveway*
  - Eastbound approach: Restripe for one through lane and provide a 300-foot right-turn pocket;
  - Westbound approach: Proposed south access driveway;
  - Northbound approach: Provide a 350-foot right-turn channelized pocket with YIELD sign;
  - Southbound approach: Restripe for a 150-foot left-turn pocket;
  - Southbound receiving lane: Provide a 425-foot right-turn pocket; and,
  - Upgrade traffic signal hardware and revise traffic signal timing plans.
  
6. *Route 312 at Independent Way/ Interstate-84 Eastbound Ramps*
  - Eastbound approach: Restripe for one left-turn lane, one through lane and one right-turn lane;

- Westbound approach: Restripe to two left-turn lanes, one through lane and one right-turn lane; and,
  - Upgrade traffic sign hardware and revise traffic signal timing plan.
7. *Route 312 at Office Access Drive*
    - Westbound approach: Provide a 350-foot left-turn pocket.
  8. *Route 312 at Route 6*
    - Eastbound receiving lane: Add a 625-foot receiving lane;
    - Westbound approach: Lengthen pocket to 625 feet;
    - Southbound approach: Restripe to double left-turn; and,
    - Revise traffic signal timing plan.

The Town also requested that the Applicant study traffic delays, traffic congestion and unsafe traffic operation at the following locations:

1. Route 312 at the Office Building Access Drive;
2. Route 312 at Zimmer Road; and,
3. Independent Way at the Applebee's/Home Depot Access Drives.

The minor road approaches/access drives at each of the aforementioned intersections are currently managed by two-way STOP control. Due to the high volume of through traffic within this Corridor, entering and exiting movements to/from these minor road approaches/access drives currently experience significant delays. Significant delays entering and exiting minor roads and access drives present a safety concern as drivers will be less likely to wait for acceptable gaps in traffic. Therefore, the Applicant proposed a second plan of action "The Possible Improvements," pending review from the New York State Department of Transportation (NYSDOT), which includes the installation of actuated Traffic Signals at the aforementioned locations interconnected with the existing and proposed traffic control system along State Route 312 to supplement the recommended improvements. Together the recommended and possible improvements will work together to improve traffic flow, alleviate congestion, reduce stops and delays and enhance traffic safety within the Study Area.

It would be difficult to realistically model and evaluate the performance of the Route 312 Corridor with the implementation of the possible and recommend improvements using conventional tools and methodologies (i.e. a macroscopic (SYNCHO) analysis). Therefore, a microscopic (SIMTRAFFIC) analyses or micro-simulation was undertaken as a supplement to the traditional macroscopic (SYNCHRO) analysis to further assess the traffic impacts associated with the proposed Crossroads 312 development. The microscopic (SIMTRAFFIC) analyses conducted evaluate the project based on two very important performance measures:

- Total Delay Per Vehicle; and,
- 95<sup>th</sup> Percentile Queue Lengths vs. Storage Available.

These performance measures are believed to more realistically represent future conditions within the Route 312 Corridor. The 95<sup>th</sup> Percentile Queue Lengths are critical in understanding whether traffic queues will exceed available storage and spillback into travel lanes, thus creating gridlock. In general, the results of the micro-simulation show that with implementation of the recommended and possible improvements, the Route 312 Corridor will operate with fewer delays and less congestion than it would otherwise in the no-build conditions. The results of the 2015 build with improvements analysis indicates that of the aforementioned three key intersections provided in the 2015 no-build analysis summary only one will operate with moderate delays during some peak hours and one will have excessive queuing:

1. *Route 312 at Interstate 84 Eastbound Interchange 19 On/Off Ramps and Independent Way*
  - Northbound through lane total delay between 55.0 and 80.0 seconds/vehicle during the Saturday midday peak hour only;
  - Southbound left-turn lane and through lane total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon and Saturday midday peak hours; and,
  - Southbound approach total delay between 55.0 and 80.0 seconds/vehicle during the Saturday midday peak hour only.
  
2. *Route 312 at Independent Way at Applebee's/Home Depot Access Drives*
  - Eastbound left-through-right lane group 95<sup>th</sup> percentile queue length will exceed available storage during all three Study peak hours. (It should be noted that there is significant amount of space on the Applebee's property to accommodate any queuing). The implementation of a traffic signal at this intersection will significantly increase the safety, specifically of vehicles entering and exiting the property.

In conclusion, it is the opinion of the project traffic engineer that the Crossroads 312 development and its related roadway improvements are vital to the future operation of the Route 312 Corridor.

### **Comment Mit-1**

*The proposed project would likely involve disturbance to the wetland buffer for the construction of stormwater management facilities; as such the FEIS should include potential mitigation measures for the disturbance. (AKRF (11/12/2013))*

#### **Response:**

Mitigation for the Town wetland buffer disturbances resulting from stormwater basin grading and outfalls will be achieved by the inclusion of a substantial area of existing paved surfaces in the project's SMP's. In Offsite Subbasins #11 and 12, portions of Route 312, I84 entrance/exit ramps, International Blvd., Milan Drive, and the roof and parking area on three Terravest 1 sites contain impervious surface of over 370,000 sq. ft. This constitutes 8.5 acres of impervious area that will now be captured in SMP's effective in reducing pollutants in urban runoff. The capacity of the 0.6 acres of disturbed buffer area to filter runoff should be far surpassed by the treatment achieved in the project's SMP's.

Wherever possible the widened portions of Route 312 will be drained to the project's SMP's for treatment. The widening for the project along the site's frontage and at the I84 exit ramp will involve approximately 20,000 sq. ft. of new pavement. Due to grade conditions approximately 6,000 sq. ft. of the new pavement will drain toward the south uncaptured. Mitigation for the small area of pavement not captured is achieved by the treatment of a far greater area of existing untreated pavement.