

## WOODLANDS REVIEW



**Environmental Consulting & Technology, Inc.**

February 18, 2009

Ms. Barbara McBeth  
Deputy Director of Community Development  
City of Novi  
45175 West Ten Mile Road  
Novi, MI 48375

Re: Sri Venkateswara Temple and Cultural Center  
Woodland Review of the 3<sup>rd</sup> Revised Preliminary Site Plan (SP#08-08C)

Dear Ms. McBeth:

Environmental Consulting & Technology, Inc. (ECT) has reviewed the proposed 3<sup>rd</sup> Revised Preliminary Site Plan (Plan) for the Sri Venkateswara Temple and Cultural Center prepared by DIFFIN Development Consultants dated January 29, 2009. The Plan and supporting documentation were reviewed for conformance with the City of Novi Woodland Protection Ordinance Chapter 37.

The project site is located in Section 16 on the west side of Taft Road north of Eleven Mile Road (Sidwell No. 22-16-451-032, commonly known as 26233 Taft Road). The Plan proposes the construction of a 2-story, 22,693 square foot Sri Venkateswara Temple, 21,823 square foot Cultural Center, and associated facilities and parking. The buildings appear to be proposed under two (2) separate phases: the temple and a cultural center to support community activities.

#### Onsite Woodland Evaluation

ECT has reviewed the City of Novi Official Woodlands Map and completed an onsite Woodland Evaluation on Wednesday, March 26, 2008. With the exception of an unflagged forested vernal pool area in the northwest portion of the regulated woodland, ECT found that the *Tree Survey/Tree Removal Plan* (Sheet 3) accurately depicts existing site conditions. The surveyed trees have been marked with the survey numbers in yellow paint. Numerous mature hardwood trees exceeding 20 inches in dbh occur scattered throughout the regulated woodland where the temple and associated parking (Phase 1) are proposed, including sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), red elm (*Ulmus rubra*), black walnut (*Juglans nigra*), bitternut hickory (*Carya cordiformis*), and tuliptree (*Liriodendron tulipifera*). The site showed evidence of disturbance, with soil spoil piles, brush heaps, and debris piles located near the transition between old field and regulated woodland and mature black locusts (*Robinia pseudoacacia*) scattered throughout the regulated woodland. See attached site photographs.

Despite signs of disturbance at the eastern boundary, the regulated woodland onsite exhibits a diversified age structure, ranging from seedlings and understory saplings to mature overstory trees with 30-inch d.b.h. or more. The woodland understory contained relatively few invasive species. There were significant amounts of native tree advanced regeneration. Advanced regeneration is composed of understory trees positioned to move into the overstory. This transition occurs as mature trees die or blow over, opening gaps in the canopy. Also unique is the intactness of the mosaic of upland and wetland forest on the site. This upland/lowland connectivity provides for excellent ecological functioning and diverse wildlife habitat. The forested vernal pool now shown as

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mature trees die or blow over, opening gaps in the canopy. Also unique is the intactness of the mosaic of upland and wetland forest on the site. This upland/lowland connectivity provides for excellent ecological functioning and diverse wildlife habitat. The forested vernal pool now shown as Wetland H on the revised Plan provides especially good habitat for amphibians and reptiles, such as frogs, salamanders, and turtles. The regulated woodlands onsite are part of a larger expanse of regulated woodland that extends south and northwest of the property and represent a significant portion of the central core of this larger woodland habitat, which also includes regulated forested wetland to the northwest of the site.

### Plan Review

Per summary calculations in the lower right-hand corner of the *Tree Survey/Tree Removal Plan* (Sheet 3), the Plan proposes the removal of 143 trees with dbh greater than or equal to 8 inches while saving 121 regulated trees. This represents removal of 54% of the total number of regulated trees reported for the site (264). The current Plan proposes slightly less regulated tree removal than the previous two plans, with 152 (58%) and 148 (56%) regulated trees proposed for removal, respectively. The summary calculations indicate that 260 replacement credits are required, with 75 replacements planted onsite and 185 credits to be paid into the Tree Fund.

However, ECT found numerous errors in the table used to calculate tree replacement. See *Tree Removal & Replacement Corrections and Revised Woodland Impacts* below. Due to changes in the site layout and parking lot configuration, it appears that an additional four (4) regulated trees (# 107, 108, 131, and 132) shown as being saved on Sheet 3 are likely to be adversely impacted by grade changes within their root zones. The canopies of these regulated trees along the western edge of the parking lot should be surveyed to confirm drip line location. The trees whose entire root zone cannot be protected by woodland fencing during construction should be designated as being removed in the table and on the plan and compensated for in the replacement calculations. An additional 5 replacement credits would be required for trees 107, 108, and 131. Tree # 132 is nearly dead and does not require replacement. The Applicant may choose whether or not to actually remove these trees, depending on site conditions during construction.

ECT is also concerned about the future secondary access drive shown on the northwest portion of the Plan. The entire southern portion of the property located directly north of this secondary access is designated as regulated woodland. Future access located on this neighboring property will certainly impact additional regulated woodland vegetation, as well.

### Tree Removal & Replacement Corrections

The following corrections are needed to Sheet 3:

- Tree # 107 indicated as being impacted on plan drawing and table with 2 replacement credits
- Tree # 108 indicated as being impacted on plan drawing and table with 2 replacement credits
- Tree # 131 indicated as being impacted on plan drawing and table with 1 replacement credit
- Tree # 132 indicated as being impacted on plan drawing and table with 0 replacement credits
- Tree # 293 indicated as being impacted on plan drawing with 1 replacement credit
- Tree # 110 indicated as being saved in the table with 0 replacement credits
- Tree # 142 with 2 replacement credits
- Tree # 143 with 2 replacement credits
- Tree # 149 with 2 replacement credits
- Tree # 151 with 6 replacement credits

- Tree # 197 with 1 replacement credit
- Tree # 222 with 1 replacement credit
- Tree # 232 with 2 replacement credits
- Tree # 247 with 2 replacement credits
- Tree # 292 not regulated

#### Revised Woodland Impacts

ECT finds that the proposed Plan calls for the following impacts to onsite regulated trees:

- 147 total regulated trees with 8-inch dbh or greater to be removed, given the corrections stated above and including additional 4 tree impacts (# 107, 108, 131, and 132) at western edge of the parking lot; additional impacts on neighboring property possible with future secondary access to the north
- 56% removal of regulated trees onsite including additional 4 tree impacts at western edge of the parking lot
- 262 replacement trees required including additional 5 credits for trees # 107, 108, and 131

#### Site Plan Compliance with Ordinance Chapter 37 Standards

It is ECT's opinion that the proposed Plan does not adequately respond to the significant natural features of the site. Per Section 37-29 of the City of Novi Woodland Ordinance:

"...the protection and conservation of irreplaceable natural resources from pollution, impairment, or destruction is of paramount concern. Therefore, the preservation of woodlands, trees, similar woody vegetation, and related natural resources shall have priority over development when there are no location alternatives. The integrity of woodland areas shall be maintained irrespective of whether such woodlands cross property lines."

Although ECT applauds the Applicant's conservation of remaining woodland via a conservation easement, the central core area of the regulated woodland is much reduced with removal of over half of the regulated trees and over half of the regulated woodland area onsite. See attached map showing the context of the project's regulated woodland impact. Therefore, we do not believe that the proposed development fully meets the letter of the Woodland Ordinance nor the spirit in which it was written. Whereas trees are viewed as a renewable resource, and the Woodland Ordinance provides a mechanism for their replacement, the ecological value of the site's high quality, intact woodlands as forested ecosystems is *not* immediately replaceable. If the Applicant considered alternative layouts, the site itself offers a relatively clear, contiguous area on the east side closest to the road that offers a place for development in a previously impacted area, while minimizing impacts to the surrounding regulated woodlands and other natural features. Of particular concern are 1) the loss of core or interior forested habitat, 2) the loss of the forested vernal pool habitat, aka Wetland H, due 78% of the wetland being filled, 3) the loss of upland and wetland habitat connectivity due to the filling of Wetlands H, G, F, and C, and 4) the potential for additional regulated woodland impact directly north of the site via the secondary access drive.

Specifically, the Plan appears to lack several items necessary for compliance with the Site Plan standards. As previously stated in ECT's last review letter, the following information must be provided in the Plan:



- Matching tree removal numbers for Sheet 3 vs. Sheet 5
- Corrected tree removal and replacement values as outlined above
- Matching species numbers for replacement trees shown on Sheets 12 & 13 vs. Sheet 14 as outlined below
- Corrected value for replacement tree credits to be paid into the Tree Fund on Sheet 14

Tree Replacement Review

The *Landscape Plan No. 1 & 2* sheets (Sheets 12 & 13) call for 44 deciduous and 63 evergreen replacement trees (75.5 tree credits) to be placed onsite. These numbers are somewhat at odds, in both number and species, with those presented in the Landscaping Supplemental Notes & Details on Sheet 14. Several woodland replacement trees are too close to light structures and underground utilities, and a few species are not appropriate for placement in the emergent wetland mitigation areas. As previously stated in ECT's last review letter, the following corrections should be made to Sheets 12 & 13:

- Removal of "RP" replacement designation for sweetgum near water main on Sheet 13 to match table on Sheet 14
- Removal of "RP" replacement designation for thornless hawthorn and round leaved dogwood on Sheet 12 to match table on Sheet 14
- Shift white spruce and hemlock on Sheet 12 at least 5 feet, preferably 10 feet, from proposed storm sewer
- Shift black hills spruce, white pine, and river birch on Sheet 12 at least 5 feet, preferably 10 feet, from proposed lights
- Replace American beech and American basswood proposed within the wetland mitigation areas on Sheet 12 with appropriate wetland tree species, such as *Quercus bicolor* or *palustris*, *Acer rubrum* or *saccharinum*, or *Platanus occidentalis*
- Shift swamp white oak on Sheet 13 at least 10 feet from light and at least 30 feet from adjacent river birch replacement tree
- Replace ironwood proposed within the wetland mitigation areas on Sheet 13 with an appropriate wetland tree species, such as *Carpinus caroliniana*
- Replace non-native littleleaf lindens along west side of the parking lot in preserved regulated woodland on Sheet 13 with the native *Tilia americana*

The following corrections should be made to the table on Sheet 14:

- 7 American basswoods; remove 2 littleleaf lindens
- 8 swamp white oaks
- 9 ironwoods
- 19 white spruces
- Adjust species number as necessary to match species substitutions recommended above

Most replacement trees have been located within a conservation easement, along with the remaining regulated woodland onsite and proposed wetland mitigation. While ECT encourages the placement of woodland replacements within existing woodland and proposed wetland areas, we are concerned that conditions within the mitigation wetland may be too wet for three of the proposed replacement species. Given that the seed mix for the mitigation wetland areas contains numerous

emergent herbaceous species tolerant of relatively deep and long-lasting inundation, ECT recommends that ironwood, American beech, and American basswood be replaced with wetland tree species. The overall diversity of proposed replacement tree species is commendable, and location and spacing of the woodland replacements are much improved. ECT suggests that additional replacements could be located within the remaining regulated woodland on the western portion of the site.

**Recommendation**

**ECT does not recommend approval of the Plan.** Significant changes must be made to the 3<sup>rd</sup> Revised Preliminary Site Plan to address the specific issues and corrections raised above. Considering the sizeable footprint of the development, number and adequate spacing of required landscape and replacement trees, and need to avoid wetland resources, ECT believes that it is necessary for a larger proportion of the replacement trees to be located within areas of remaining regulated woodland. **ECT continues to suggest that the proposed Plan does not adequately respond to the significant natural features of the site.** It remains ECT's opinion that 1) removal of over half of the site's regulated trees and over half of the regulated woodland area onsite, 2) the significant decrease in core woodland habitat and fragmentation of the larger landscape patch of forest proposed in the Plan, 3) the loss of the forested vernal pool habitat, aka Wetland H, 4) the loss of upland and wetland habitat connectivity, and 5) the potential for additional regulated woodland loss directly north of the site via the secondary access drive are not congruent with the Woodland Ordinance nor the spirit in which it was written. ECT strongly recommends that the Applicant be encouraged to consider alternative layouts of the proposed development to further minimize impacts to the high quality regulated woodlands and forested wetlands of the site. The Planning Commission may wish to discuss the merits of the proposed development in light of the loss of high quality regulated woodlands onsite.

If you have any questions regarding the contents of this letter, please contact us.

Respectfully,

**ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.**



Martha Holzheuer, Certified Arborist  
Landscape Ecologist

cc: Kristen Kapelanski  
Angela Pawlowski  
David Beschke

Enclosures



Above: Forested vernal pool welland originally not shown on plans, now referred to as Wetland H  
Below: Mature bitternut hickory where southwestern parking lot is proposed







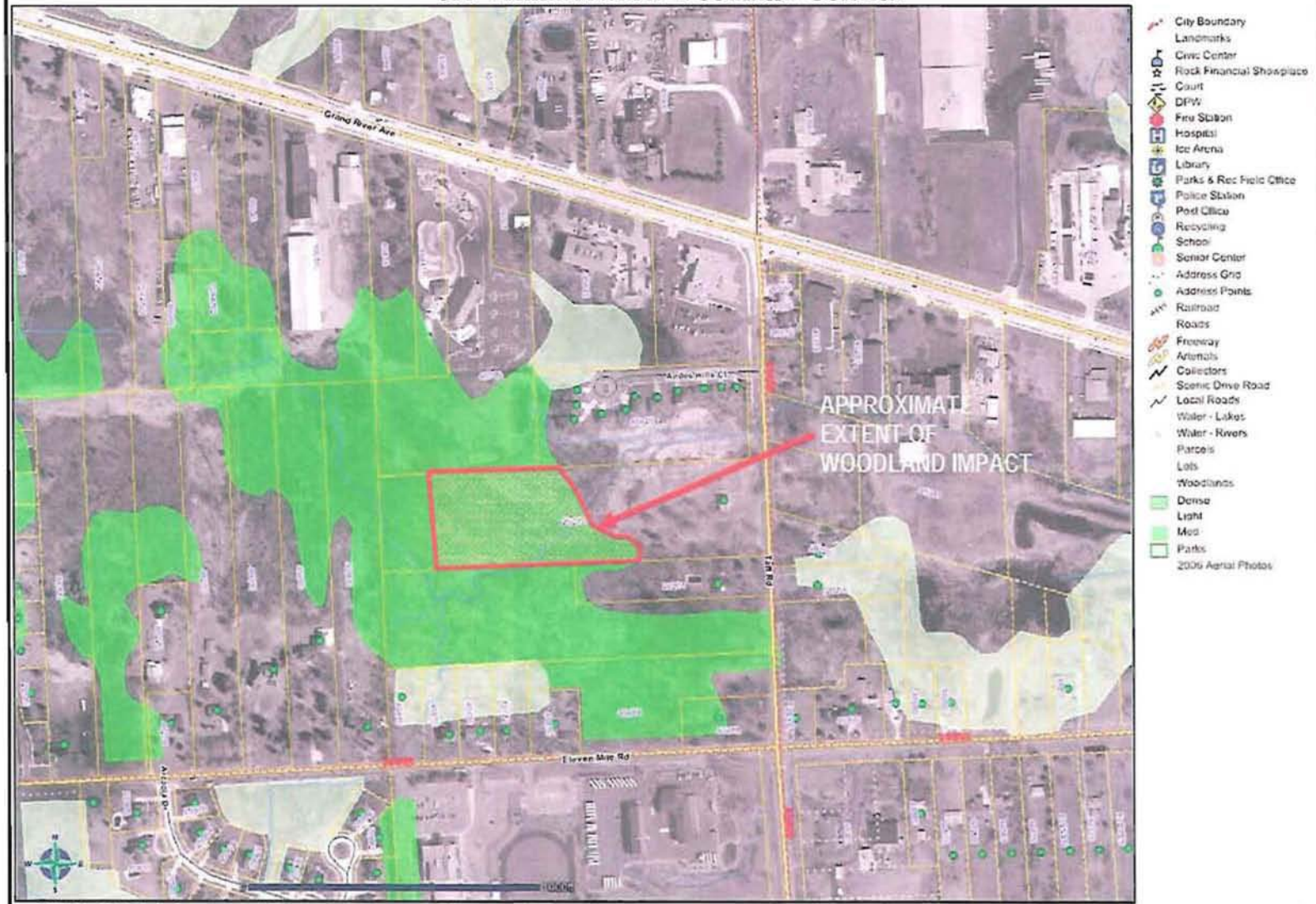
Above: Mature sugar maple where southwestern parking lot is proposed

Below: Mature northern red oak to be saved, west end





### Sri Venkateswara Woodland Context



**DISCLAIMER:** The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys, and other public records. The information presented is not a legally recorded map or survey and is not intended as a substitute for original or official source information. The City of Novi makes no warranty, express or implied, as to the accuracy, completeness, or usefulness of the information presented.  
**SOURCES:** City of Novi, Oakland County, Plansight LLC, October 2006 for County Data, October 2006 for City Data, Aerial Imagery as provided.

**LANDSCAPING REVIEW**



**PLAN REVIEW CENTER REPORT**  
February 17, 2009  
**Revised Preliminary Landscape Review**  
Sri Venkateswara Temple SP#08-08C

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**Review Type**

Revised Preliminary Landscape Review

**Property Characteristics**

- Site Location: Taft Road
- Site Zoning: RA
- Plan Date: 1/29/09

**Recommendation**

**Approval of the Revised Preliminary Site Plan for 08-08C Sri Venkateswara is recommended.** The Applicant previously received the necessary Planning Commission waivers. Please address all other minor comments upon Final Site Plan Submittal.

**Ordinance Considerations**

**Adjacent to Residential – Buffer (Sec. 2509.3.a.)**

1. A 4'-6" to 6' high landscape berm is required at the property boundary between special land uses and residential properties. Residential properties abut the project site along the north, south and west property boundaries. The Applicant was previously granted waivers from the Planning Commission due to the significant native vegetation, slopes or wetlands that would be compromised by the installation of landscape berms.
2. To the west there exists a significant area of native woodlands that will be preserved and augmented with additional woodland plantings. This woodland will serve well as a buffer to the westerly property. On this latest submittal, the applicant has reduced the number of proposed built features.
3. Site conditions along the northerly property boundary are varied. Some areas slope downward to existing and proposed wetland areas. The existing wetlands and native vegetation distance proposed built elements in these areas. The Applicant has proposed rain gardens and wetland mitigation and has provided vegetation as an additional buffer. Due to the large existing wetland, a berm or along this property boundary is not practical. Per staff suggestion, the Applicant has substituted from canopy deciduous trees to evergreen trees to further buffer properties to the north. The northwesterly portion of this boundary is proposed as conserved woodlands.
4. The southerly boundary also has varied existing conditions. An area of existing wetlands will be preserved and rain gardens and mitigated wetland are proposed for portions of this boundary. The southwestly portion of the boundary will be adjacent to conserved woodlands. The Applicant has provided a greenbelt buffer with dense evergreens and a 6' tall brick faced wall adjacent to the existing residence. The Applicant has held the



wall back off the property line in order to allow for the planting of buffering shrubs on the residential side of the wall.

**Adjacent to Public Rights-of-Way – Berm (Wall) & Buffer (Sec. 2509.3.b.)**

1. The required 34' wide greenbelt has been adequately provided and landscaped.
2. A 4' high landscape berm with a 4' crest is required within the greenbelt. However, due to the existing site grades, the Applicant has proposed that the Cultural Center finished floor be approximately 7' over the roadway grade. Installation of the berm is impractical and unnecessary. The Planning Commission granted a waiver for this berm as the site grades and proposed landscape provide adequate buffer.
3. Canopy/ Large Evergreen Trees at one per 35 LF of frontage are required and have been provided.
4. Sub-canopy Trees at one per 20 LF of frontage are required and have been provided.

**Street Tree Requirements (Sec. 2509.3.b.)**

1. One Canopy Street Tree per 35 LF is required between the proposed bike path and roadway. These have been provided.

**Parking Landscape (Sec. 2509.3.c.)**

1. Calculations and required Parking Lot Landscape Area has been provided per Ordinance requirements.
2. Parking Lot Canopy Trees have been provided per Ordinance requirements.
3. Final design for the bioswales will be determined between the Applicant and Staff to ensure optimum efficiency. Best Management Practices are encouraged throughout the site.

**Building Foundation Landscape (Sec. 2509.3.d.)**

1. A 4' wide landscape bed is required along all building foundations with the exception of access points. These areas have been provided for each proposed building.
2. An area 8' wide multiplied by the length of building foundations is required as foundation landscape area. These areas have been provided for each of the proposed buildings.

**Plant List (LDM)**

1. A Plant List has been provided per Ordinance and Landscape Design Manual requirements.

**Planting Details & Notations (LDM)**


1. Planting Details and Notations have been provided per Ordinance and Landscape Design Manual requirements

**Irrigation (Sec. 2509 3.f.(6)(b))**

1. All landscape areas are required to be irrigated. Please provide and Irrigation Plan upon Final Site Plan submittal.



Please follow guidelines of the Zoning Ordinance and Landscape Design Manual Guidelines. This review is a summary and not intended to substitute for any Ordinance. For the landscape requirements, see the Zoning Ordinance landscape section on 2509, Landscape Design Manual and the appropriate items in the applicable zoning classification.



Reviewed by: David R. Beschke, RLA

**TRAFFIC REVIEW**

February 10, 2009

Ms. Barbara E. McBeth  
Deputy Director Community Development  
45175 West Ten Mile Road  
Novi, MI 48375-3024



**Re: Sri Venkateswara Temple – Preliminary – 3<sup>rd</sup> Revision**  
SP No. 08-08C  
OHM Job No. 163-07-0562

As requested, we have reviewed the revised preliminary site plan submitted for Sri Venkateswara Temple & Cultural Center. The plans were prepared by Diffin Development Consultants, Inc. and are dated January 29, 2009.

### **OHM RECOMMENDATION**

At this time, we recommend approval of the preliminary site plan, subject to changes noted below being made prior to final plan submittal.

### **DEVELOPMENT BACKGROUND**

- The site is currently zoned as RA (Residential Acreage).
- The property contains approximately 10.1 acres.
- The applicant has proposed (2) buildings, each to be built in a separate phase.
- The proposed 2-story temple will be 22,693 SFT.
- The proposed cultural center will be 21,823 SFT.
- The priest residence is no longer proposed.

### **ROADWAY NETWORK**

The development is located at on the west side of Taft Road, between Grand River & 11 Mile Road. In this area, Taft is functionally classified as a minor arterial with a posted speed of 35 MPH, and falls within the jurisdiction of the City of Novi. The developer has proposed a single driveway with a boulevard entrance. A cross-access stub to the north is also proposed, as a part of the Phase I construction.

### **SITE PLAN CORRECTIONS**

1. Parking Lot Entry Points: The current configuration of the main drive aisle and the westerly entrances into the Cultural Center parking lot intersect to form a rather wide intersection, with one leg at a significant skew. The intersection geometry, coupled with the nearby pedestrian crossing, pose several safety concerns that could be eliminated by reconfiguring this area.

The east/west row of 90-degree parking should be converted to angle parking, thereby making it one-way. We also recommend minor geometric changes at this location, in order to minimize the likelihood of entering vehicles making a left turn from the main drive aisle into this lot. Please see attached sketch.

The sketch shows the elimination of a handful of parking spaces at the west end of the one-way aisle, so that vehicles exiting their parking space will not back into the main drive aisle on a radius section. We recognize that parking is limited on-site, and that this may result in a net loss. If possible, we suggest adding a bank of parking stalls along the north edge of the site,

immediately west of the 0.15-acre wetland mitigation area. The elimination of these last few spaces, although recommended, is optional.

2. One-Way Aisle: Since the revised site layout now features additional parking along the entire north side of the Temple, it would be desirable to permit two-way traffic near the rear of the Temple (along the west side of the building). This would eliminate the potential for a vehicle to be trapped at the end of the aisle, if all of the parking spaces are occupied.

We recommend that the aisle along the west side of the Temple be increased to a 24' width, to permit two-way traffic. Associated signs ("One Way" and "Do Not Enter") should be removed from the plans. Alternately, the last parking space (in the southwest corner of the site) can be eliminated and used as a turnaround for vehicles. This space would need to be signed and striped accordingly.

3. Dumpster Location: We note that the proposed Cultural Center dumpster location is over 200' from the building, but presume that this is due to zoning restrictions. However, the dumpster enclosure should be directly aligned with the aisle (in order to facilitate loading by the garbage truck). In its current location, the dumpster is not aligned with either "lane." This means that a front-loading truck would have to drive on the wrong side of the aisle in order to access the dumpster, and a rear-loading truck would have to either circle the parking lot, or would have to make a 4-point turn.
4. Lights: In order to provide adequate clear distance, all obstructions (light poles, fire hydrants) should be located at least 2' from the back of curb. It appears that the lights along the west side of the Temple, adjacent to the one-way aisle, are located right on the back of curb. These should be relocated.
5. ADA Ramps: Some of the ramp types shown are incorrect. Type P ramps should be used at the following locations, instead of Type R: one at the west end of the crosswalk (in front of the Temple), one at the east end of the same crosswalk (just south of the bank of 14 parking stalls), and one on the north side of the mid-block pedestrian crossing (south of the 0.10 acre wetland mitigation area). The type P ramp should also be used at the south side of the main site driveway, since the junction of the two sidewalks must be at a slope of 2% or less.

A Type R ramp should be shown at the southwest corner of the Temple, near the proposed unloading area.

6. Traffic Signs: There is a "One Way" sign shown in the middle of a parking space, near the northwest corner of the Temple. This sign should be relocated or removed (refer to #2). The "Do Not Enter" signs at both one-way aisles (west of the Temple, and west of the Cultural Center) should be positioned at a 45-degree angle, such that the face of the sign is angled at approaching vehicles.

Additionally, "No Parking" or "No Parking Loading Zone" signs should be added at the southeast corner of the proposed cultural center and at the west side of the proposed Temple.


7. Turnaround Depth: We note that a cross-hatched no parking area is shown approximately half-way in between the Temple and the Cultural Center, just east of the 0.063-acre mitigation area. The depth of this area is 14', and should be shortened to 8'. This would enable vehicles in the adjacent parking spaces to turn around, while still providing a stub to access the wetland area.




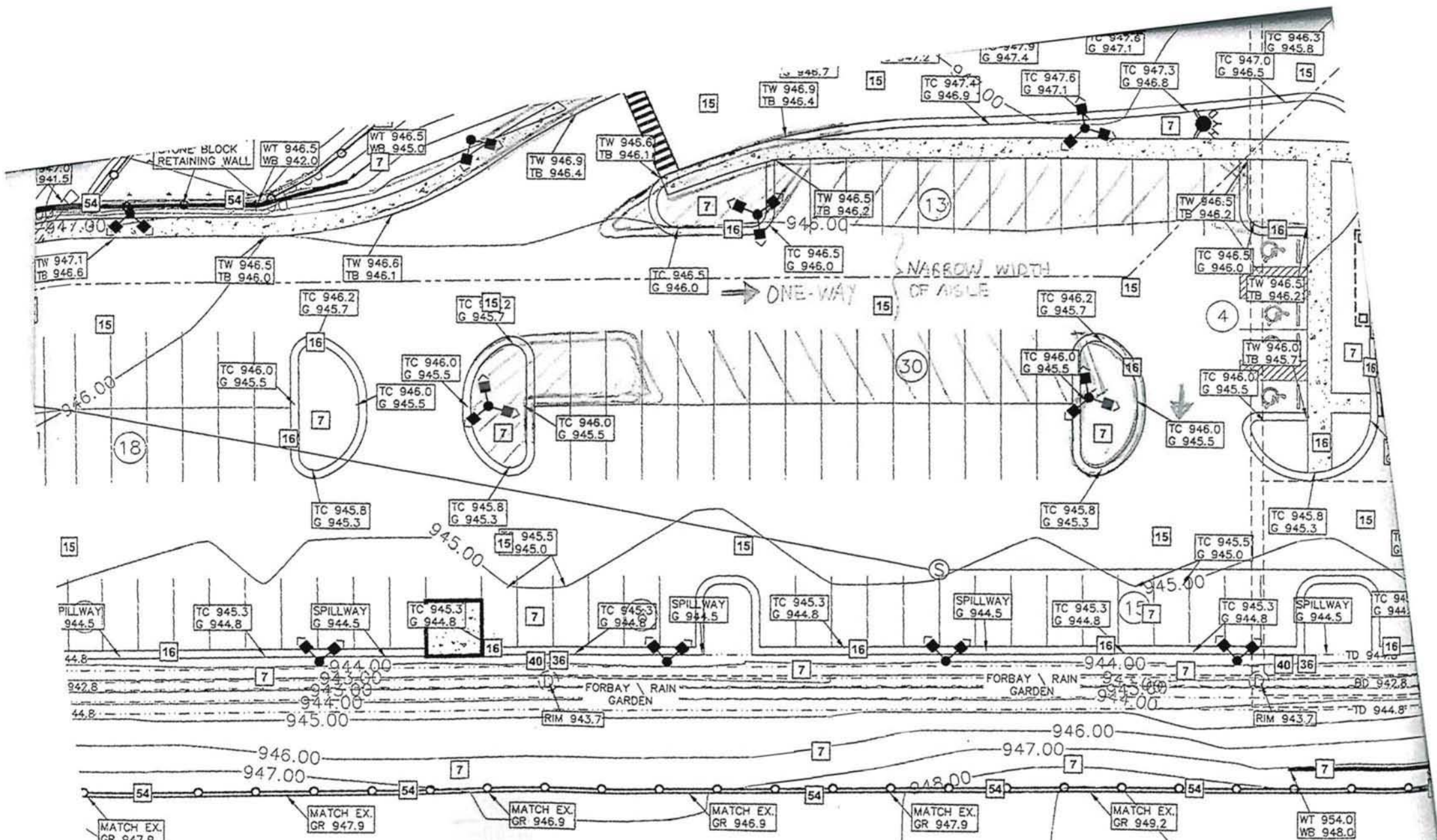
8. Sidewalk Width: In areas where the sidewalk is located immediately adjacent to the curb, the sidewalk width should be at least 5', exclusive of the curb. This would mean the sidewalk would be 5' as measured to the back-of-curb, or 5.5' to the face of curb.
9. Bumper Blocks: We note that a flush sidewalk has been provided adjacent to both accessible parking areas, with bumper blocks to separate vehicles from the sidewalk. In order to alleviate maintenance issues associated with bumper blocks (including debris accumulation and snow removal), we recommend installing the "Reserved Parking" (R7-8) signs 2' from the edge of each parking space. This allows the bumper blocks to be eliminated completely, while still maintaining a 5' wide sidewalk and providing sufficient space for bumper overhang (without striking the sign support). This is intended to be a suggestion, and should be considered optional.
10. Pavement Markings: We recommend that cross-hatch pavement markings be used at all loading/unloading areas. These markings should be labeled (with a note) on the plans.
11. Phasing: Plan Sheet 5 contains a note indicating that tree clearing, grading, light poles, etc. will be constructed as needed per phase. However, since the priest residence has been eliminated, the plans now show the entire site to be constructed at the same time, with the exception of the building for the Cultural Center. This note should be updated or removed.
12. Cover Sheet: The sheet index on the cover sheet is incorrect. The phasing for the architectural plans should be updated to remove the Priest Residence altogether, and to reflect the Temple as Phase 1 and the Cultural Center as Phase 2.
13. Legend: On Sheet 5, we note a cross-hatch pattern on the main drive aisle and along the north side of the parking lot, but cannot find a legend showing what this corresponds to. The plans should include a legend. Also, if this pattern indicates a thicker pavement section for fire access, consider placing this adjacent to the proposed Temple.

If you have any concerns or questions, please feel free to contact us at 734-522-6711.

Sincerely,  
Orchard, Hiltz & McCliment, Inc.

  
Stephen B. Dearing, P.E., PTOE.  
Manager of Traffic Engineering

  
Sara A. Merrill  
Traffic Engineer



END  
 TDR  
 TWG ELEVATION  
 OF WALL  
 M OF WALL  
 IF BERM  
 CURB  
 GRAVEL  
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 YTDH  
 DITCH  
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**LEGEND**

WATERMAIN  
 STORM SEWER  
 SANITARY  
 STORM SEWER  
 TRIBUTARY AREA  
 SILENT

**EROSION CONTROL MEASURES**

7	SPRINKLING	OVERLAP ON LARGE AREAS MAY BE NECESSARY TO PROVIDE IMMEDIATE PROTECTION UNLESS GRADE IS PROTECTED SHOULD INCLUDE PREPARED TOPSOIL MIX
15	PAVING	PROTECTED AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASED SURFACE VELOCITY AND VELOCITY IRREGULAR SURFACE WILL HELP SLOW VELOCITY
16	GRASS AND SODS	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING THE PAVED SURFACE COLLECTS AND CONDUCTS RUNOFF TO CHANNELS OR PREPARED DRAINAGEWAY
36	CATCH BASIN, DRAIN BUILT	

**CONSTRUCTION SEQUENCE**

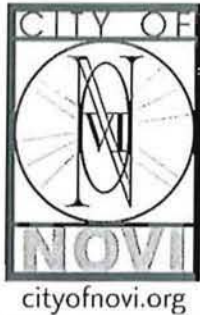
DEC 2008 - DEC 2009  
 PRIOR TO CONSTRUCTION  
 DEMOLITION  
 SOIL EROSION CONTROL MEASURES  
 IDENTIFY CONSTRUCTION LIMITS  
 INSTALL SILT FENCE

**VIOLATIONS/CITATIONS**

1. Routine inspections will be performed  
 once a week

## ENGINEERING REVIEW





## PLAN REVIEW CENTER REPORT

February 13, 2009

### Engineering Review

Sri Venkateswara Temple  
SP #08-08C

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#### Petitioner

Manyam Group, LLC

#### Review Type

Revised Preliminary Site Plan

#### Property Characteristics

- Site Location: West side of Taft, south of Grand River.
- Site Size: 10.1 acres
- Date Received: February 13, 2009

#### Project Summary

- The development is proposed to be constructed in two phases. Phase 1 would include construction of a 22,693 SF temple with associated site work. Phase 2 would be a 21,823 SF cultural center. Site access would be provided by a boulevard entrance on Taft Road, with a secondary access stub to the undeveloped property to the north to allow for future access.
- Water service would be provided by extending a 12-inch main from a point just south of Grand River along the east side of Taft to the southern limits of this parcel. An 8-inch main would be extended into and throughout the site, including 6 hydrants on site with a stub to the south to allow for future extension and looping. Both the temple building and cultural center would each be served by 2-inch domestic and 6-inch fire lead.
- Sanitary sewer service would be provided by tying an 8-inch into a proposed sanitary sewer to be constructed by the Basilian Fathers Residence. Both the temple building and cultural center would each be served by a 6-inch lead and a separate grease trap lead.
- Storm water for the entire site would be routed to one of five proposed bioretention/rain garden areas, three of which would be required for Phase 1. The parking and drive areas would drain via sheet flow to reinforced spillways draining to the bioretention areas. Each bioretention area would consist of check dams at the point of discharge to dissipate flow velocities and to settle out coarse sediments. Storm water would flow through mulched and planted areas where it would infiltrate downward to a pipe drainage system designed to restrict the bank-full storm volume. The downstream Grand River regional detention basin will provide the required flood storage (100-year volume). The pipe drainage system for all five areas would discharge at controlled rates to the adjacent wetland system through a perforated spreader pipe (2 locations) or a standpipe control structure (1 location).



**Recommendation**

**Approval of the Revised Preliminary Site Plan and Preliminary Storm Water Management Plan is recommended.**

**Comments:**

General

1. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications.
2. The City standard detail sheets are not required for the Final Site Plan submittal. They will be required with the Stamping Set submittal.
3. Clearly show the phasing plan for all pavement, structures, utilities, etc. on all relevant plan sheets.
4. The ingress/egress hatching is shown east of the northern approach stub. Please correct for next submittal.
5. As previously stated, provide a note that compacted sand backfill shall be provided for all utilities within the influence of paved areas, and illustrate on the profiles.
6. As previously stated, provide a utility crossing table indicating that at least 18-inch vertical clearance will be provided, or that additional bedding measures will be utilized at points of conflict where adequate clearance cannot be maintained.

Water Main

7. The proposed water main along Taft Road shall be installed, as part of this development, up to the existing main near Grand River Avenue and all easements shall be acquired prior to water main construction for the site.
8. Provide a profile for all proposed water main 8-inch diameter and greater.
9. Provide a water shutoff valve for each domestic lead on the plan. Be sure to include the shutoff in a water main easement.
10. As previously stated, any water main runs over 25-feet shall be a minimum of 8-inches in diameter. This includes all hydrant leads.
11. As previously stated, label all water main sizes and material on the plan and profiles.
12. All hydrants shall be within an easement (the hydrant in the southwest corner of the site does not have a minimum 10-foot easement surrounding it).

Sanitary Sewer

13. Provide a testing bulkhead immediately upstream of the sanitary connection point. Additionally, provide a temporary 1-foot deep sump in the last sanitary structure proposed prior to connection to the existing sewer, and provide a watertight bulkhead in the downstream side of this structure.
14. Provide a sanitary sewer basis of design for the development on the utility plan sheet.
15. Provide a note on the Utility Plan and sanitary profile stating the sanitary lead will be buried at least 5 feet deep where under the influence of pavement.

Storm Sewer

16. Provide a detailed overflow and catch basin drawing on the plan.
17. Provide a four-foot deep sump and an oil/gas separator in the last storm structure prior to discharge (MH#108).
18. MH #100 shall consist of a dual standpipe design in order to accommodate overflow. The current design is susceptible to clogging. Call to discuss.
19. Stand pipes shall have a minimum diameter of 36-inches for maintenance purposes.
20. Stand pipes as well as all storm water conveyance pipes not under pavement shall be constructed of HDPE or an equivalent approved by the Engineering Department. Currently, PVC Schedule 40 is being shown on the plan. Any storm sewer under pavement shall still be 12-inch minimum Class IV concrete.
21. The proposed aggregate bedding shall be gravel or washed stone. Crushed limestone settles over time and becomes less pervious.
22. As previously stated, show design calculations to support the sizing of the proposed culvert through the middle of the site.
23. All storm sewer pipes shall be a minimum of 12 inches in diameter for maintenance purposes. This includes the proposed discharge pipe.
24. Show all storm sewer and storm water management on the utility plan.

Storm Water Management Plan

25. The Storm Water Management Plan for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the new Engineering Design Manual.
26. The allowable storm water discharge for the City of Novi is 0.15 cfs/acre impervious. The current calculations use a value of 0.2 cfs/acre impervious. Please revise calculations on the plan for the next submittal.
27. Provide soil borings in the vicinity of the bioretention facilities to determine soil conditions and to establish the high water elevation of the groundwater table. Verify the ground water elevation is at least 3 feet below the bioretention facility.
28. The SWMP must address the discharge of storm water off-site, and evidence of its adequacy must be provided. This should be done by comparing pre- and post-development discharge rates and volumes
29. Access to each outlet control structure shall be provided for maintenance purposes in accordance with Section 11-123 (c)(8) of the Design and Construction Standards. Provide a stoned "land-bridge" approximately 5-foot wide allowing direct access to each standpipe from the bank of the basin during high-water conditions (i.e. stone up to high water elevation). Provide a detail and/or note as necessary.
30. Show a cross section for the sediment forbay on the northeast corner of the site.

Paving & Grading

31. Provide a detail of a standard curb cut spillway.
32. Label all curb cut/spillway on all relevant plan sheets.
33. Show pavement cross sections (including sidewalks and boardwalk) on the detail sheet/pavement plan.

34. Curb without abutting parking stalls shall be the City standard 6-inch C-4 or integral curb. The proposed sidewalk/integral curb south of the Temple building is currently shown as 4-inch integral curb. Please revise.
35. Many pavement elevations are currently labeled as T/B. Please revise all point elevations on next submittal.
36. Label specific ramp locations on the plans where the detectible warning surface is to be installed.
37. Provide a note on the Grading Plan stating the right-of-way pathway will match existing grades at both ends.
38. The approach within the right-of-way shall be asphalt to match the adjoining Taft Road cross-section. As previously stated an additional cross-section detail for the required pavement shall be provided.
39. The end islands shall conform to the City standard island design, or variations of the standard design, while still conforming to the standards given in Section 2506 of Appendix A of the Zoning ordinance. Show the radii of all islands.
40. Provide top of curb/walk and pavement/gutter grades to indicate height of curb adjacent to parking stalls or drive areas. If the walkway adjacent to the handicap parking stalls and behind the bumper blocks is proposed to be barrier free, please show this on the grading plan with use of elevation points.
41. As previously stated, label all the different curb sizes throughout the pavement plan differentiating between 4-inch and 6-inch curb. Also label integral curb.

#### Flood Plain

42. If any of the site contains a flood plain area, a City of Novi floodplain use permit will be required for the proposed floodplain impact. This should be submitted as soon as possible. Contact the Building Department for submittal information. An MDEQ floodplain use permit will also be required prior to site plan approval.

#### Off-Site Easements

43. Any off-site easements required for utility extensions or other reasons must be executed prior to final approval of the plans. Drafts shall be submitted at the time of the Preliminary Site Plan submittal.

#### **The following must be submitted at the time of Final Site Plan submittal:**

44. A letter from either the applicant or the applicant's engineer must be submitted with the Final Site Plan highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved.
45. An itemized construction cost estimate must be submitted to the Community Development Department at the time of Final Site Plan submittal for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. ***The cost estimate must be itemized*** for each utility (water, sanitary, storm sewer), on-site paving, right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pretreatment structure and restoration).

**The following must be submitted at the time of Stamping Set submittal:**

46. A draft copy of the maintenance agreement for the storm water facilities, as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department with the Final Site Plan. Once the form of the agreement is approved, this agreement must be approved by City Council and shall be recorded in the office of the Oakland County Register of Deeds.
47. A draft copy of the private ingress/egress easement for shared use of the drive entry at Taft Road must be submitted to the Community Development Department.
48. A draft copy of the 20-foot wide easement for the water main to be constructed on the site must be submitted to the Community Development Department.
49. A draft copy of the 20-foot wide easement for the sanitary sewer to be constructed on the site must be submitted to the Community Development Department.
50. Executed copies of any required off-site utility easements must be submitted to the Community Development Department.

**The following must be addressed prior to construction:**

51. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting. Once determined, a grading permit fee must be paid to the City Treasurer's Office.
52. An NPDES permit must be obtained from the MDEQ because the site is over 5 acres in size. The MDEQ requires an approved plan to be submitted with the Notice of Coverage.
53. A Soil Erosion Control Permit must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department (248-347-0430) for forms and information.
54. A permit for work within the right-of-way of Taft Road must be obtained from the City of Novi. The application is available from the City Engineering Department and should be filed at the time of Final Site Plan submittal. Please contact the Engineering Department at 248-347-0454 for further information.
55. A permit for water main construction must be obtained from the MDEQ. This permit application must be submitted through the City Engineer after the water main plans have been approved.
56. A permit for sanitary sewer construction must be obtained from the MDEQ. This permit application must be submitted through the City Engineer after the sanitary sewer plans have been approved.
57. Construction Inspection Fees to be determined once the construction cost estimate is submitted must be paid prior to the pre-construction meeting.
58. Partially restricted discharge into a regional detention basin is planned for this site. Therefore, a storm water tap fee will be required prior to the pre-construction meeting. An exact figure will be determined at the time of Final Site Plan approval.



59. A storm water performance guarantee, equal to 1.5 times the amount required to complete storm water management and facilities as specified in the Storm Water Management Ordinance, must be posted at the Treasurer's Office.
60. An incomplete site work performance guarantee for this development will be calculated (equal to 1.5 times the amount required to complete the site improvements, excluding the storm water facilities) as specified in the Performance Guarantee Ordinance. This guarantee will be posted prior to TCO, at which time it may be reduced based on percentage of construction completed.
61. A street sign financial guarantee in an amount to be determined (\$400 per traffic control sign proposed) must be posted at the Treasurer's Office.
62. Permits for the construction of each retaining wall must be obtained from the Community Development Department (248-347-0415).

Please contact Lindon Ivezaj at (248) 735-5694 with any questions.



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cc: Rob Hayes, City Engineer  
Kristen Kapelanski, Planner  
Tina Glenn, Water & Sewer Dept.

**FAÇADE REVIEW**



February 16, 2009

City of Novi Planning Department  
 45175 W. 10 Mile Rd.  
 Novi, MI 48375-3024

Attn: Ms. Barb McBeth – Deputy Director Community Development

Re: **FACADE ORDINANCE – Revision No. 3 - Revised Preliminary Site Plan Review**  
**Sri Venkateswara Temple - Cultural Center, SP08-08C**  
 Façade Region: 1 Zoning District: RA Building Size: 23,700 S.F.

Dear Ms. McBeth:

The following is the Façade Review for Revised Preliminary Site Plan, Revision No. 3, for the above referenced project. The drawings dated 1/28/09 have been revised by the applicant to incorporate an exit stair affecting the north façade. The percentages of materials proposed for each façade are as shown on the table below. The maximum percentages allowed by the Schedule Regulating Façade Materials of Ordinance Section 2520 are shown in the right hand column. Materials that exceed the maximum percentage allowed by the Ordinance are highlighted in bold and marked with an "X".

PROPOSED MATERIAL (Sample Board reference in parentheses)	EAST FAÇADE	WEST FAÇADE	SOUTH FAÇADE	NORTH FAÇADE	ORDINANCE MAX. / MIN.
BRICK (Alaska White Velour & Quaker Blend Velour)	73%	76%	77%	79%	100% / 30%
METAL PANELS (Classic Copper)	9%	3%	2%	2%	50%
GLASS FIBER REINFORCED CONC. (GFRC) (White, Smooth)	18%	21%	21%	19%	25%

**Comments:**

1. The percentages of façade materials have not changed significantly from the prior submittal. The design remains in full compliance with the Façade Chart.
2. The building has been increased in size from approximately 21,600 to 23,700 S.F.. The building height is unchanged from the previous submittal.

**Recommendation:** The building design has not changed significantly with respect to compliance with the Façade Ordinance and is consistent with the design for which approval was granted by the Planning Commission on October 22, 2008.

Sincerely,  
 DRN & Associates, Architects PC

Douglas R. Necci, AIA



**METCO SERVICES, INC.**  
**ENGINEERS, ARCHITECTS & SURVEYORS**

23917 Cass St. · Farmington · Michigan · 48335 · (248) 478-3423 · Fax (248) 478-5656

October 13, 2008

City of Novi Planning Department  
 45175 W. 10 Mile Rd.  
 Novi, MI 48375-3024

Attn: Ms. Barb McBeth – Deputy Director Community Development

Re: **FACADE ORDINANCE – Revision No. 2 - Preliminary Site Plan Review**  
**Sri Venkateswara Temple - Temple Building**  
**SP#08-08b**  
 Façade Region: 1  
 Zoning District: RA  
 Project Data: 22,693 S.F.

Dear Ms. McBeth:

The following is the Façade Review for Preliminary Site Plan, Revision No. 2, for the above referenced project. The drawings dated October 6, 2008 have NOT been revised by the applicant since our prior review. We therefore repeat our recommendations from our letter dated 9/9/08 as follows. The percentages of materials proposed for each façade are as shown on the table below. The maximum percentages allowed by the Schedule Regulating Façade Materials are shown in the right hand column. Materials that exceed the maximum percentage allowed by the Ordinance are highlighted in bold and marked with an "X". It should be noted that material identifications on the façade drawings were somewhat vague and more concise identification will be necessary for the final review.

PROPOSED MATERIAL (Sample Board reference in parentheses)	FRONT EAST FAÇADE	REAR WEST FAÇADE	LEFT SOUTH FAÇADE	RIGHT NORTH FAÇADE	ORDINANCE MAXIMUM
BRICK (Alaska White, Velour)	37%	0%X	7%X	7%X	100% (30% MIN)
PRE-GLAZED BLOCK (Ashton, Satin, Stone)	0%	47%X	11%X	11%X	0%
GLASS FIBER REINFORCED CONCRETE (GFRC) (White, Smooth)	63%X	53%X	82%X	82%X	25%

**Comments:**

- The west, south and north facades do not comply with the Façade Chart's requirement for 30% minimum brick and have excessive percentages of Glazed Block and GFRC. Additionally, the east façade has excessive percentage of GFRC. The design is therefore in substantial non-compliance with the Façade Chart.
- This project has the unique characteristic of having as it's principle goal the creation of a Temple using traditional Hindu architecture. This architectural style is characterized by the integration of extensive carved motifs, shikers (spires), gopurams (freestanding gateway tower), and other unique ornamentation into the facades. The building also features an upper terrace or circumambulatory surrounding the entire building, which forms an important component of the ceremonial functions of the building.

3. While such Temples were traditionally constructed from solid carved stone, GFRC is the only material that can achieve the requisite level of carved detail, while being practical from a cost perspective, and being suitable for Michigan's environment.

**Recommendation:**

**GFRC** - For the reason stated in No. 3 above, we would recommend a Section 9 Waiver for the use of GFRC, as proposed.

**Pre-Glazed Block** - The specific sample illustrated on the sample board indicates a white color with polished face which is quite attractive and is consistent with other proposed materials and colors. A Section 9 Waiver is therefore recommended for this material, contingent upon an exact match with the sample board (Van Poppelen Bros., Ashton, Satin Stone).

**Brick** - With respect to the insufficient percentage of brick, we would not recommend a Section 9 Waiver at this time pending further clarification of the façade material proposed for the background wall areas. These areas were not identified on the drawings and were assumed to be GFRC for the sake of this review. The use of brick in these areas will bring the entire building into approximate compliance with the Façade Chart with respect to the requirement for 30% brick.

If you have any questions regarding this matter please do not hesitate to call.

Sincerely,  
METCO Services, Inc.



Douglas R. Necci AIA

## FIRE REVIEW



February 17, 2009

**CITY COUNCIL**

Mayor  
David B. Landry

Mayor Pro Tem  
Bob Gatt

Terry K. Margolis

Andrew Mutch

Kathy Crawford

Dave Staudt

Brian Burke

**City Manager**  
Clay J. Pearson

**Fire Chief**  
Frank Smith

**Deputy Fire Chief**  
Jeffrey Johnson

TO: Barbara McBeth, Deputy Director of Community Development, City of Novi

RE: Sri Venkateswara Temple

SP#: 08-08C, 3<sup>rd</sup> Revised Preliminary Site Plan

**Project Description:**

- 1) 6693 S.F. 2-Story Priest Housing – **This has been removed from this phase.**
- 2) 22,693 S.F. 2-Story Temple – Phase I
- 3) 21,823 S.F. Single Story Cultural Center – Phase II

**Comments:**

The Priest Housing has been removed from this plan however, on the cover sheet, the Architectural Plans table still make reference to this building.

The Fire Department Connection for the Temple building is shown in the landscape planter area northwest of the building. It appears that the FDC has been misplaced. It shall be in an accessible & visible location on the front or address side of the building within 100' of a hydrant. Considering the complex architectural lines of this building, a remote FDC may be an option if designed and installed properly.

**Recommendation:**

The above plan is **Recommended for Approval** with the FDC issue being resolved on the next plan submittal.

Sincerely,

Michael W. Evans  
Fire Marshal

cc: file

**Novi Fire Department**  
42975 Grand River Ave.  
Novi, Michigan 48375  
248.349-2162  
248.349-1724 fax

cityofnovi.org



**APPLICANT RESPONSE LETTERS**

**(Please refer to the Project Development  
Informational Manual for the Applicant's Response Letters.)**

**APPLICANT'S PRESENTATION  
OF CHANGES MADE TO THE SITE PLAN**

**Sri Venkateswara Temple and  
Cultural Center - Plan Revisions**

<u>Priest Residence</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
West Rear Yard Setback	118.53'	180.86'	NA	Priest residence has been removed to make room for more parking without further impacting the site's natural features
<u>Temple</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
West Rear Yard Setback	219.5'	281.4'	251.86'	Building was relocated 30' further east to provide 2 more rows of parking in front of the building
North Side Yard Setback	93.5'	75'	114.5'	Building was relocated 39.5' further south, Hindu's temple should be located in the southwest quadrant of the site per the Hindu religious scriptures (vastu)
Building Size	22,693 Sq. Ft.	Unchanged	23,703 Sq. Ft.	Added 2 stairwells at east of building to better accommodate an enclosed emergency exit of people from Prayer Hall and Terrace at West end of building.
<u>Cultural Center</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
Building Size	31,184 Sq. Ft.	21,823 Sq. Ft.	22,743 Sq. Ft.	Added 1 stairwell at North end of building to provide an enclosed alternate emergency exit for the second floor.
<u>Overall Parking Calc.</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
Provided Parking	288 Spaces	272 Spaces	306 Spaces	ZBA would not have granted the parking variance. Parking was added to meet the minimum requirements provided by the planning department.
<u>Landscape Screening</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
South Property Line	4' high embankment with a 6' brick wall and at the top of the embankment. 7' Evergreen planting along embankment. Max. height from southern property 7'	11' high berm wall with 7' evergreen planting and shrubs along the wall. Max height 12' from southern property.	Unchanged	The amount and general location of proposed landscaping is unchanged
North Property Line	4' to 6' high embankment with deciduous and evergreen plantings	4' to 6' high embankment with deciduous and evergreen plantings.	Unchanged	The amount and general location of proposed landscaping is unchanged
West Property Line	118' to 219' woodland \ wetland buffer	181' to 281' woodland \ wetland buffer	204' to 228' woodland \ wetland buffer	Preserved additional regulated trees by eliminating the Priest Residence, will help screen Temple from southwest property.
<u>Natural Feature Preservation</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
Wetlands	Preserved 85%	Preserved 88%	Preserved 86% (1.223 acres / 1,425 acres)	The relocation of the Temple increased the wetland impacted by 0.005 acres
Woodlands	Preserved 33%	Preserved 44%	Preserved 46% (121 tree / 264 trees)	Preserved 6 additional regulated trees from previous submittal.
Conservation Easement	Proposed 32% of the total site area	Proposed 38% of the total site area	Proposed 37% of the total site area (3.52 acres)	Conservation area slightly reduced due to the additional parking needed
<u>Site Lighting</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
Light Pole Height	25' high	20' High	20' High	Layout changed slightly due to additional parking and Temple location modifications
<u>Taft Road Water Main</u>	<u>8-6-08 Submittal</u>	<u>10-5-08 Submittal</u>	<u>2-2-09 Submittal</u>	<u>Comments</u>
Water Main	Service Temple property only	Service all properties along Taft Road	Unchanged	Unchanged