



HOLIDAY INN PRO JZ19-24

HOLIDAY INN JZ19-24 WITH REZONING 18.730

Public hearing at the request of Grand River Show, LLC for initial submittal and eligibility discussion for a Zoning Map amendment from Light Industrial (I-1) to Town Center (TC) with a Planned Rezoning Overlay. The subject property is approximately 5.5 acres and is located on the south side of Grand River Avenue, east of Beck Road (Section 16). The applicant is proposing to develop a 4-story, 117-room hotel with sit-down restaurant, and a 16,413 square foot commercial building, with associated parking and site improvements.

REQUIRED ACTION

Discussion of the initial submittal and eligibility of the rezoning request from Light Industrial (I-1) to Town Center (TC) with a Planned Rezoning Overlay.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	8-23-21	<ul style="list-style-type: none"> • Deviation for 27% reduction in minimum parking standard (<i>Shared parking study indicates a need for fewer spaces than required. Supported.</i>) • Deviation for reduction in loading area required (<i>Supported</i>) • Items to be addressed on the Site Plan submittal
Engineering	Approval recommended	5-21-20	<ul style="list-style-type: none"> • Items to be addressed on the Site Plan submittal
Landscaping	Approval recommended	8-3-21	<ul style="list-style-type: none"> • Deviation for building foundation landscaping around the commercial building to be located away from the building (<i>Supported</i>) • Items to be addressed on the Site Plan submittal
Wetlands	Not applicable		
Woodlands	Not applicable		
Traffic	Approval recommended	5-4-21	<ul style="list-style-type: none"> • Deviation for reduction in required parking spaces • Deviation for loading area • Deviation for lack of right turn taper (<i>plan has been revised to provide required taper at Heyn Drive entrance</i>) • Items to be addressed on the Site Plan submittal
TIS Review	Conditional	5-3-21	<ul style="list-style-type: none"> • Updated TIS provided to city

	Approval recommended		
Façade	Approval recommended	6-29-20	<ul style="list-style-type: none">• Buildings in full compliance with Façade Ordinance
Fire	Conditional Approval recommended	4-16-21	<ul style="list-style-type: none">• Items to be addressed on the Site Plan submittal

Planning Commission's opportunity to Comment on the request (No Motion Needed)

In the matter of Holiday Inn, JZ19-24, with Zoning Map Amendment 18.730, the Planning Commission is invited to provide comment on the initial submittal and eligibility of the proposal to rezone the subject property from Light Industrial (I-1) to Town Center (TC) with a Planned Rezoning Overlay Concept Plan.

As stated in the newly amended PRO Ordinance,

In order to be eligible for the proposal and review of a rezoning with PRO, an applicant must propose a rezoning of property to a new zoning district classification, and must, as part of such proposal, propose clearly-identified site-specific conditions relating to the proposed improvements that,

- (1) are in material respects, more strict or limiting than the regulations that would apply to the land under the proposed new zoning district, including such regulations or conditions as set forth in Subsection C below; and*
- (2) constitute an overall benefit to the public that outweighs any material detriments or that could not otherwise be accomplished without the proposed rezoning.*

(See attachment for Full text, including Subsection C)

PART 1: Summary of significant comments from staff and consultant's review letters that may be considered to meet the standard of clearly-identified site-specific conditions that are more strict or limiting than the regulations that would apply to the land under the proposed new zoning district:

1. The permitted uses of the property will be a 117-room full-service hotel with a restaurant and an approximately 16,400 square foot building for retail and/or restaurant uses.
2. If uses proposed for the commercial building differ from the assumptions made in the TIS parking analysis, the applicant shall provide a revised parking study to confirm there is sufficient parking available on the site to accommodate all uses.
3. The height of the hotel building shall not exceed four stories (about 55 feet), as shown in the PRO Concept Plan submittal.
4. The architectural design of the hotel, including material selections, shall be as shown in the PRO Concept Plan submittal.
5. Sidewalks and safety paths shall be provided as shown on the PRO Concept Plan,

PART 2: Summary of significant comments from staff and consultant's review letters that may be considered to meet the standard of constituting an overall benefit to the public that outweighs any material detriments or that could not otherwise be accomplished without the proposed rezoning:

1. The applicant offers to construct a pedestrian plaza amenity area along Grand River Avenue with a sidewalk connection to the hotel in Phase 1 of the project. The plaza shall include quality site furnishings, raised planters with seating walls, landscaping, and elements suggested in the Grand River Corridor Study such as decorative screen walls and street number signage.
2. The applicant will exceed the Open Space requirement for the TC District by providing a minimum of approximately 30 percent, whereas the TC district requires 15%.
3. The applicant will provide eight electric car charging stations available to the general public.

4. Two way-finding signs are proposed in the pedestrian plaza to help direct visitors to nearby destinations such as the Suburban Center Showplace and Ascension Providence Hospital.
5. The proposed development will help to transition from industrial land uses of the past to the City West vision consistent with the Master Plan.
6. The project is consistent with the Master Plan goal to ensure that Novi continues to be a desirable place for business investment.
7. The proposed uses provide short term lodging and dining options in close proximity to the nearby Suburban Collection Showplace and Ascension Providence Hospital which attract large numbers of visitors to Novi.
8. In furtherance to the Master Plan goal of environmental stewardship, the proposed development plan incorporates sustainability strategies including:
 - a. Redevelopment of an existing improved site that does not impact the City's woodland and wetland resources.
 - b. Exceeding the required percentage of native species used in the landscaping (56% proposed).
 - c. Eight electric vehicle charging stations available to the public.
 - d. Solar lighting will be incorporated wherever possible.
 - e. Use of fully automated through-wall HVAC (PTAC) systems and lighting in the hotel that automatically adjusts the temperature when people leave the room, and
 - f. Incorporating environmentally friendly interior finishes and materials including wall coverings and fabrics.

DEVIATIONS

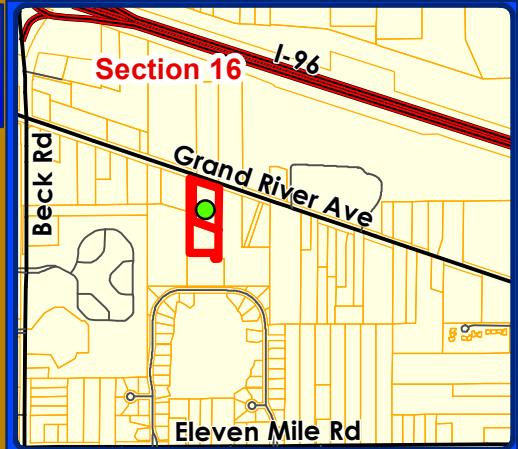
The proposed PRO Concept Plan includes the following ordinance deviation requests:

1. Planning deviation from Section 5.2.12.A & B for a 31 percent reduction in the minimum requirements for parking. A minimum of 193 spaces are required based on the uses proposed, 153 parking spaces are proposed at build-out of Phase 2. The following comments are provided in this regard:
 - a. The Shared Parking Analysis component of the Traffic Impact Statement by Fleis & VandenBrink Engineering concludes a peak parking demand of 135 spaces between all uses proposed on the site.
 - b. The number of proposed spaces results in a surplus of 18 spaces beyond the projected demand to help accommodate unexpected conditions.
 - c. The reduction in parking spaces will decrease the impermeable pavement on the site, reducing the stormwater impact and allowing more open space to be provided on the site.
2. Traffic deviation from section 5.4.2 for not meeting the minimum size requirement for commercial building loading zone (minimum of 1,890 square feet required, 960 square feet proposed), *as the proposed loading zone can sufficiently accommodate the standard delivery vehicle size for a building of this size.*
3. Landscape deviation from 5.5.3.D to allow commercial building foundation landscaping to be located away from the building, *as the required area of landscaping is provided and it will still screen the site from Grand River Avenue as intended.*

MAPS
Location
Zoning
Future Land Use
Natural Features

HOLIDAY INN PRO: JZ 19-24

LOCATION



LEGEND

 Subject Property



City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: Lindsay Bell
Date: 6/17/19
Project: HOLIDAY INN PRO JZ19-24
Version #: 1



1 inch = 183 feet

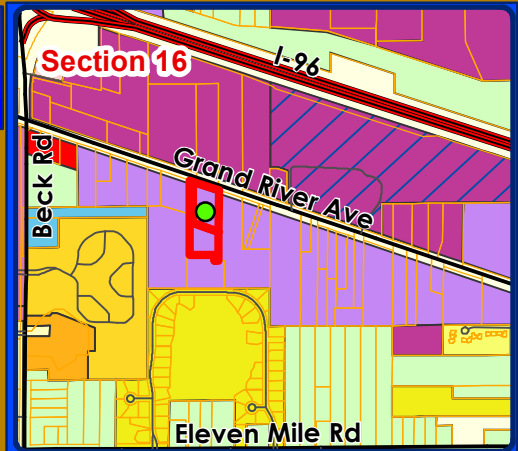
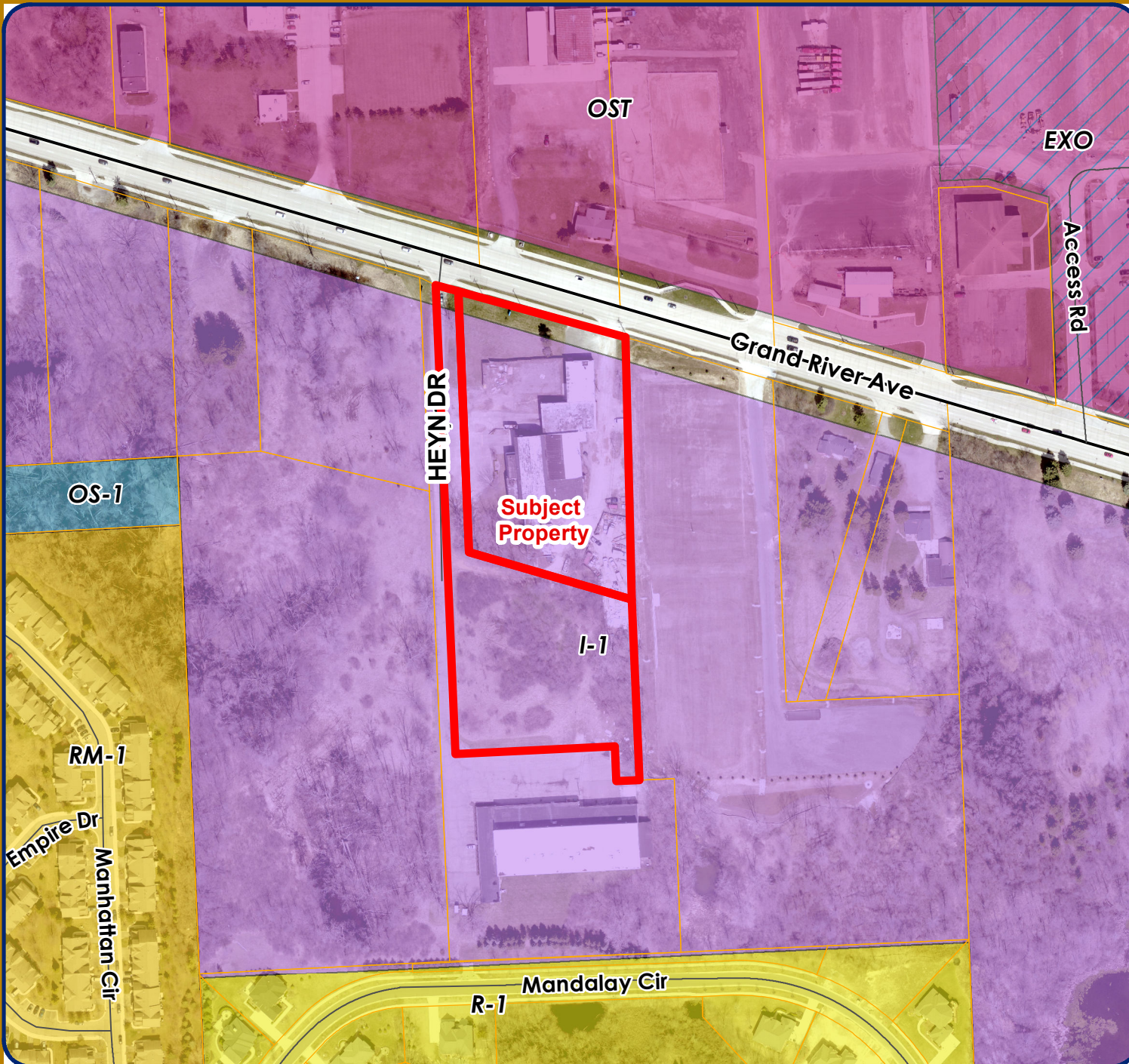


MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

HOLIDAY INN PRO: JZ 19-24

ZONING



LEGEND

- R-A: Residential Acreage
- R-1: One-Family Residential District
- R-2: One-Family Residential
- R-3: One-Family Residential District
- RM-1: Low-Density Multiple Family
- RM-2: High-Density Multiple Family
- B-2: Community Business District
- B-3: General Business District
- EXO: OST District with EXO Overlay
- FS: Freeway Service District
- I-1: Light Industrial District
- OS-1: Office Service District
- OSC: Office Service Commercial

City of Novi
 Dept. of Community Development
 City Hall / Civic Center
 45175 W Ten Mile Rd
 Novi, MI 48375
cityofnovi.org

Map Author: Lindsay Bell
 Date: 6/17/19
 Project: HOLIDAY INN PRO JZ19-24
 Version #: 1

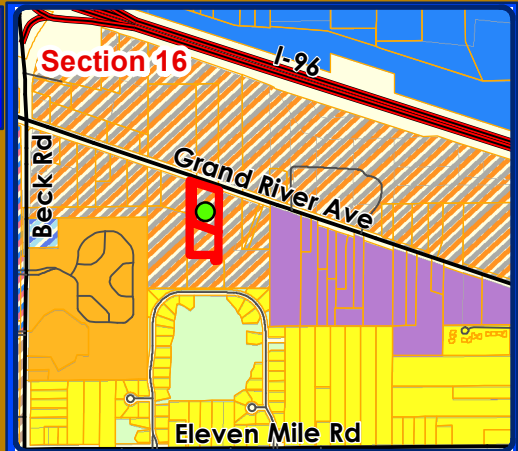
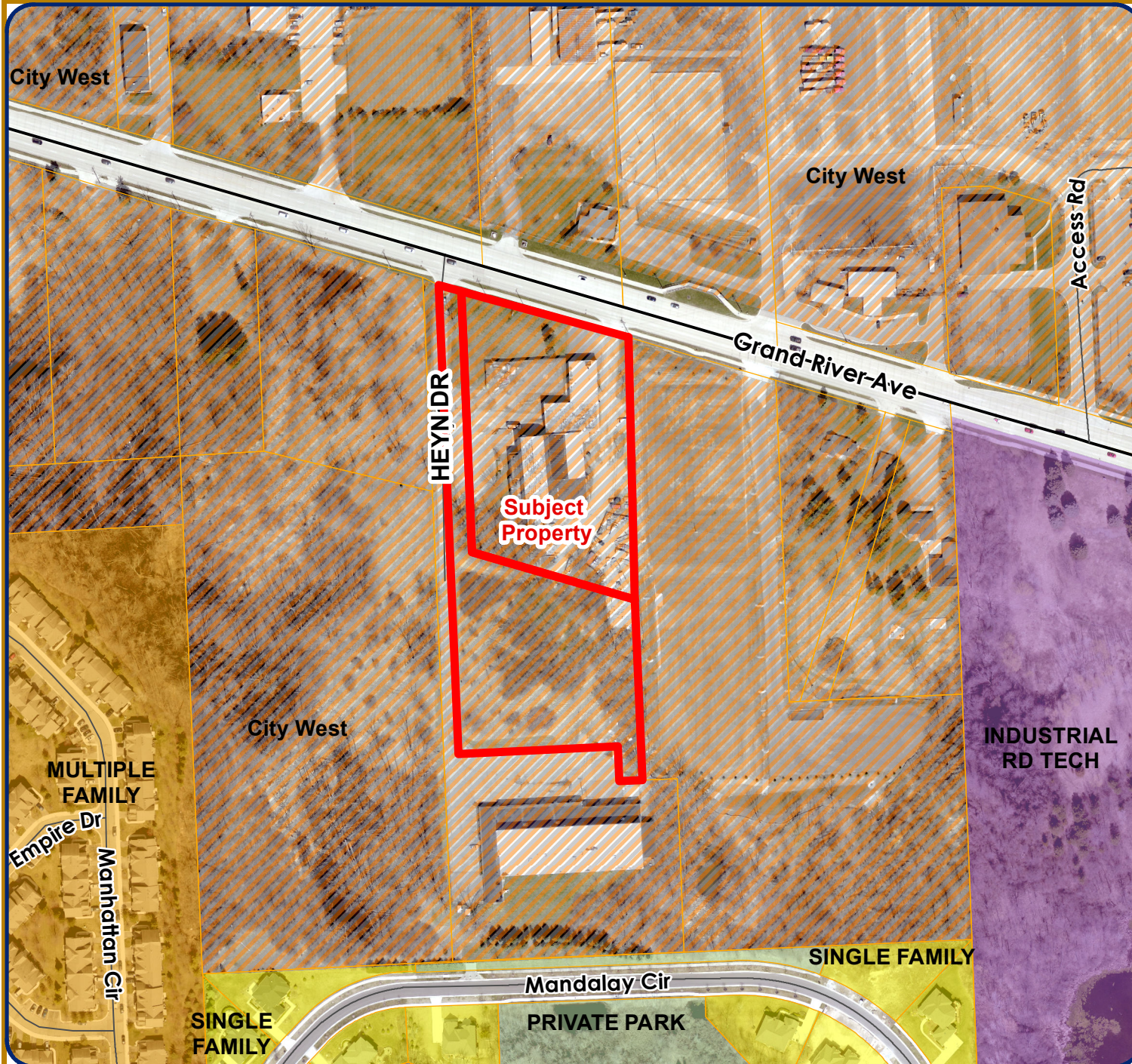


MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

HOLIDAY INN PRO: JZ 19-24

FUTURE LAND USE



LEGEND

- Single Family
- Multiple Family
- Suburban Low-Rise
- Community Office
- Office Research Development Technology
- Office Commercial
- Industrial Research Development Technology
- Local Commercial
- City West
- Educational Facility
- Private Park
- Subject Property



City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: Lindsay Bell
Date: 6/17/19
Project: HOLIDAY INN PRO JZ19-24
Version #: 1



1 inch = 250 feet

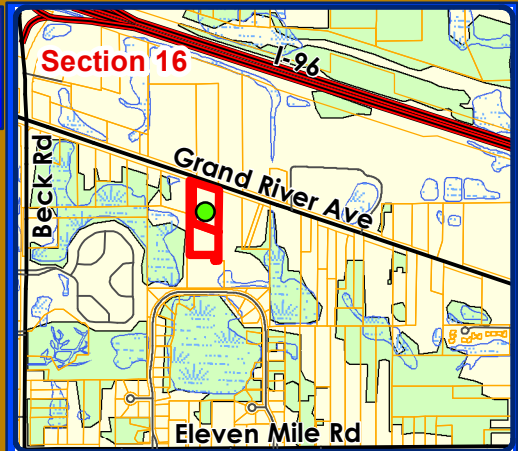


MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

HOLIDAY INN PRO: JZ 19-24

NATURAL FEATURES



LEGEND

- WETLANDS
- WOODLANDS
- Subject Property



City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: Lindsay Bell
Date: 6/17/19
Project: HOLIDAY INN PRO JZ19-24
Version #: 1



1 inch = 250 feet



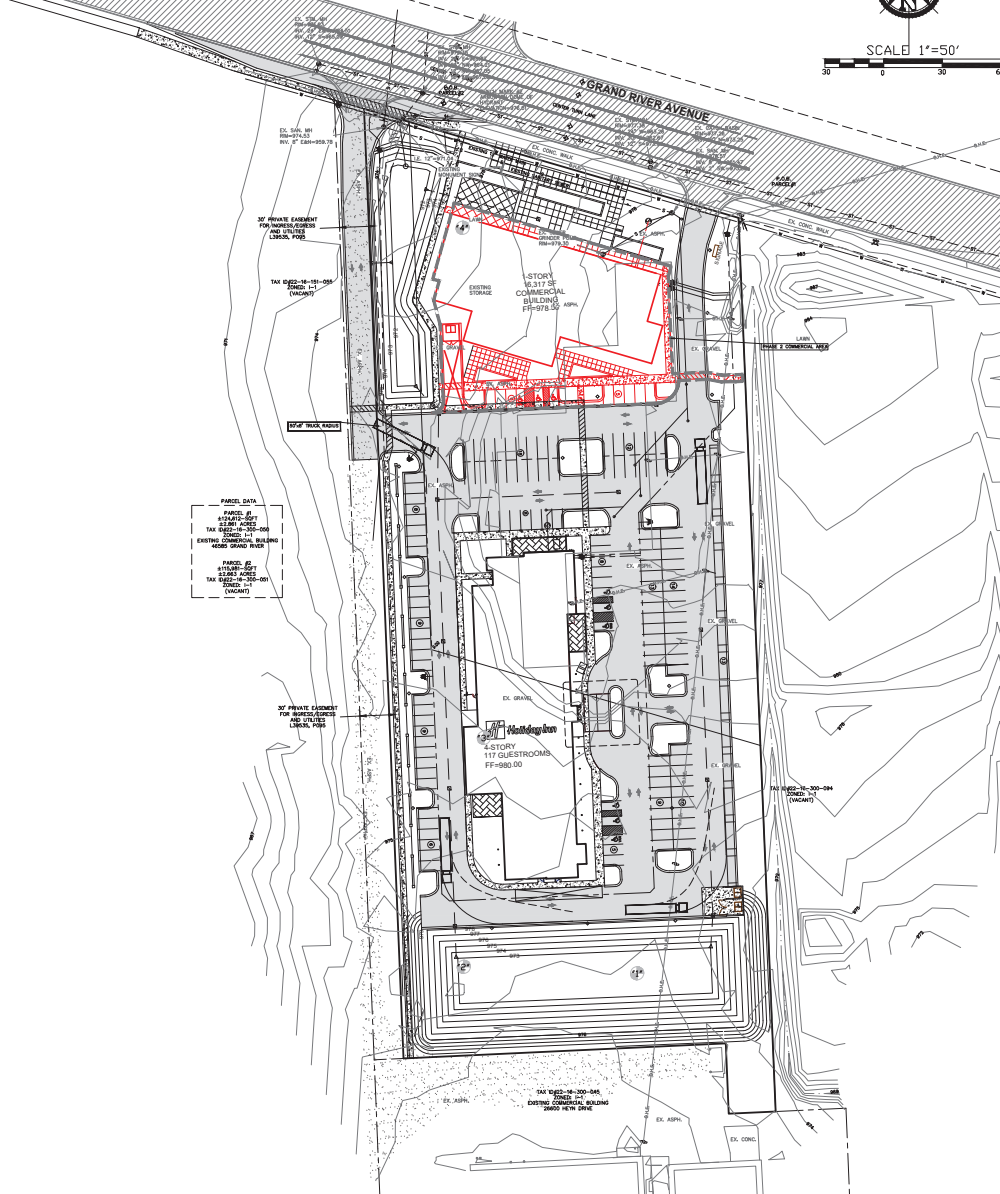
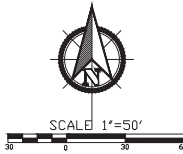
MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

PRO CONCEPT PLAN
September 7, 2021

A PRO SITE PLAN FOR HOLIDAY INN

CITY OF NOVI, OAKLAND COUNTY, MICHIGAN



PARCEL DATA
 PARCEL #1 - 22-16-300-051 (TAX DESCRIPTION)
 TAX DISTRICT - 16-051
 EXISTING COMMERCIAL BUILDING
 4080 GRAND RIVER

GENERAL NOTES:

1. ALL CONSTRUCTION TO CONFORM AND COMPLY TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY, OAKLAND COUNTY AND ANY OTHER GOVERNING AGENCY.
2. LOADING/UNLOADING TO BE FROM THE PARKING SIDE OF THE BUILDING FROM A PARKING SPACE WITH A SMALL TRUCK - NO ADDITIONAL LOADING AND UNLOADING NEEDED FOR THE PROPOSED USE.
3. WASTE WATER DISPOSAL TO BE DISCHARGED TO EXISTING TOWNSHIP SEWER WITH CITY, COUNTY AND MISO APPROVAL.
4. WATER SUPPLY TO BE CONNECTED TO EXISTING TOWNSHIP PUBLIC WATER SUPPLY
5. A PERMIT FROM THE COUNTY ROAD COMMISSION IS REQUIRED FOR ALL WORK WITHIN THE PUBLIC R/W.
6. A SOIL EROSION AND SEDIMENTATION PERMIT WILL BE REQUIRED.
7. EXTERIOR LIGHTING TO BE WALL AND POLE MOUNTED AND SHIELDED PER CITY REQUIREMENTS.
8. SIGN DETAILS ARE TO BE PROVIDED TO THE CITY AND APPROVAL GRANTED PRIOR TO THE PLACEMENT OF ANY SIGNS. SIGN PLAN TO BE SUBMITTED AT A LATER DATE
9. SEE LANDSCAPE PLAN FOR PROPOSED LANDSCAPING (PROVIDED WITH SITE PLAN).
10. ANY EXISTING ASPHALT DRIVES TO BE MAINTAINED FOR PROVEE ACCESS FOR FIRE DEPARTMENT DURING CONSTRUCTION.
11. SITE SHALL COMPLY WITH FIRE DEPARTMENT REQUIREMENTS
12. STORM SEWER DETENTION TO BE PROVIDED ON SITE IN DETENTION POND. ALL STORM WATER MUST BE APPROVED BY THE TOWNSHIP.
13. ALL REQUIREMENTS BY THE FIRE DEPARTMENT PER THE INTERNATIONAL FIRE CODE WILL BE MET.
14. OWNER TO COORDINATE TRASH PICKUP FROM THE DUMPSTER AND BUILDING DELIVERIES AT NON-PEAK HOURS.
15. ALL OVERHEAD UTILITIES THAT ARE IN CONFLICT WITH PROPOSED IMPROVEMENTS WILL BE RELOCATED ACCORDING TO THE UTILITIES REQUIREMENTS.

LEGAL DESCRIPTION:

PARCEL #1 - 22-16-300-050 (TAX DESCRIPTION)
 T1N, R1E, SEC 16, PART OF WEST 1/2 OF SECTION 16, BEGINNING AT A POINT A DISTANCE 500'23'33" 28.80 FEET & N71°54'11"W 582.16 FEET FROM CENTER OF SECTION; THENCE S00°31'21"E 450 FEET; THENCE N71°54'11"W 292.21 FEET; THENCE N00°31'20"W 450.00 FEET; THENCE S71°54'11"E 292.11 FEET TO THE POINT OF BEGINNING, CONTAINING ±2.86 ACRES MORE OR LESS.

PARCEL #2 - 22-16-300-051 (TAX DESCRIPTION)
 T1N, R1E, SEC 16 PART OF WEST 1/2 OF SECTION 16, BEGINNING AT A POINT A DISTANCE 500'23'33" 28.80 FEET & N71°54'11"W 574.34 FEET FROM CENTER OF SECTION, THENCE S00°31'20"E 450 FEET; THENCE S71°54'11"E 292.21 FEET; THENCE S00°31'20"E 312.26 FEET; THENCE S89°10'20"W 40 FEET; THENCE N00°31'20"W 60.00 FEET; THENCE S89°10'20"W 275.00 FEET; THENCE N00°31'20"W 816.63 FEET; THENCE S71°54'11"E 50.00 FEET TO BEGINNING, CONTAINING ±2.66 ACRES MORE OR LESS.

(R) - RECORDED BEARING AND/OR DISTANCE PER LEGAL DESCRIPTION
 (M) - MEASURED BEARING AND/OR DISTANCE REQUIRED TO PROVIDE PROPER CLOSURE OF PARCEL BOUNDARY

OPEN SPACE:

OPEN SPACE = 20.3%

PARKING ANALYSIS:

HOTEL:
 117 ROOMS x 0.85 spaces/room = 99.45 or 100
 4 EMPLOYEES

104 SPACES REQUIRED

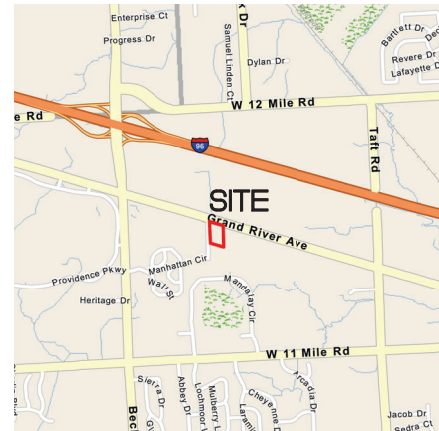
HOTEL RESTAURANT (A MIN. OF 50% OF PATRONS WILL BE ALREADY STAYING AT THE HOTEL)
 40 SEATS = 7 EMPLOYEES
 1 SPACE PER 2 EMPLOYEES = 3.5
 1 SPACE PER 2 CUSTOMERS = 20

24 SPACES REQUIRED

RETAIL SPACE: 16,317 SF
 POSSIBLE RESTAURANT - WITH 13 EMPLOYEE AND 100 SEATS
 1 SPACE PER 2 EMPLOYEES = 6.5
 1 SPACE PER 2 CUSTOMERS = 50

52 SPACES REQUIRED

TOTAL REQUIRED = 104 + 24 + 52 = 185 (PER ORDINANCE)
 TOTAL REQUIRED = (PER SHARED PARKING BY F&V)
 SUPPLIED = 153



VICINITY-NO SCALE

DEVELOPER: MR. MIKE SHAMMAM
 9075 West 12 Mile Road
 Farmington Hills, MI 48334
 248-415-1348

ARCHITECT: JARKATT ARCHITECTURE
 248-415-1348

LANDSCAPE ARCHITECT: MR. JAMES GRAY
 VERY VEEDIE
 248-415-1348

SURVEYOR: DEFFINUMOR
 4027 WEST ROAD
 WYOMI, MI 48393
 248-477-3803

ENGINEER: MR. MICHAEL POWELL
 POWELL ENGINEERING
 200 CONVENTION DRIVE
 WHITE LAKE, MI 48393
 248-764-8992

SHEET INDEX

- S-1 SITE PLAN
- S-2 DIMENSIONAL PLAN
- S-3 GRADING PLAN
- S-4 UTILITY PLAN
- S-5 MISC. DETAILS
- L-1 PHOTOMETRIC PLAN
- 1 TOPO/BOUNDARY SURVEY

LANDSCAPE PLANS

- L-1 LANDSCAPE PLAN - OVERALL
- L-2 LANDSCAPE PLAN - ENLARGEMENT
- L-3 LANDSCAPE PLAN - DETENTION BASINS
- L-4 LANDSCAPE PLAN - PUBLIC SPACE

OPEN SPACE & PLAZA CONCEPT PLANS

- OS-1 OPEN PLACE CALCULATION PLAN
- CB-1 PLAZA CONCEPT PLAN
- SR-1 SITE RENDERING

ARCHITECTURE PLANS

- A-101 FIRST FLOOR PLAN
- A-102 2-4 FLOOR PLANS
- A-201 EXTERIOR ELEVATIONS

LEGEND	
SYMBOL	DESCRIPTION
(Symbol)	CLEAN OUT
(Symbol)	ELEC. RISER
(Symbol)	FIRE HYDRANT
(Symbol)	ELEC. TRANSFORMER
(Symbol)	GUY ANCHOR
(Symbol)	STM. MANHOLE
(Symbol)	SAN. MANHOLE
(Symbol)	VENT
(Symbol)	LIGHT POLE
(Symbol)	WATER STOP BOX
(Symbol)	WATER VALVE
(Symbol)	SPEAKER BOX
(Symbol)	POWER POLE
(Symbol)	ROUND CATCH BASIN
(Symbol)	SIEN
(Symbol)	SQUARE CATCH BASIN
(Symbol)	TELEPHONE RISER
(Symbol)	SET IRON
(Symbol)	FLOUNDER IRON
(Symbol)	ELECTRIC
(Symbol)	GAS
(Symbol)	FENCE
(Symbol)	TREE

Consulting Civil Engineers
 "Engineering 4 Better Michigan"
Powell
 Engineering & Associates, LLC
 4700 Convent Drive, White Lake, Michigan 48393
 P: 248-764-8992 info@powelleng.com

WEED, AS APPLICABLE TO THE CONSTRUCTION OF THIS PLAN, HAS BEEN REVIEWED AND FOUND TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ZONING AND SUBDIVISION ACTS OF THE STATE OF MICHIGAN AND THE CITY OF NOVI, MICHIGAN. THE ENGINEER HAS CONDUCTED A VISUAL INSPECTION OF THE SITE AND HAS FOUND THAT THE SITE IS SUITABLE FOR THE PROPOSED USE. THE ENGINEER HAS CONDUCTED A VISUAL INSPECTION OF THE SITE AND HAS FOUND THAT THE SITE IS SUITABLE FOR THE PROPOSED USE. THE ENGINEER HAS CONDUCTED A VISUAL INSPECTION OF THE SITE AND HAS FOUND THAT THE SITE IS SUITABLE FOR THE PROPOSED USE.



**HOLIDAY INN
 SITE PLAN OVERALL**
 SOUTH OF GRAND RIVER, EAST OF BECK ROAD

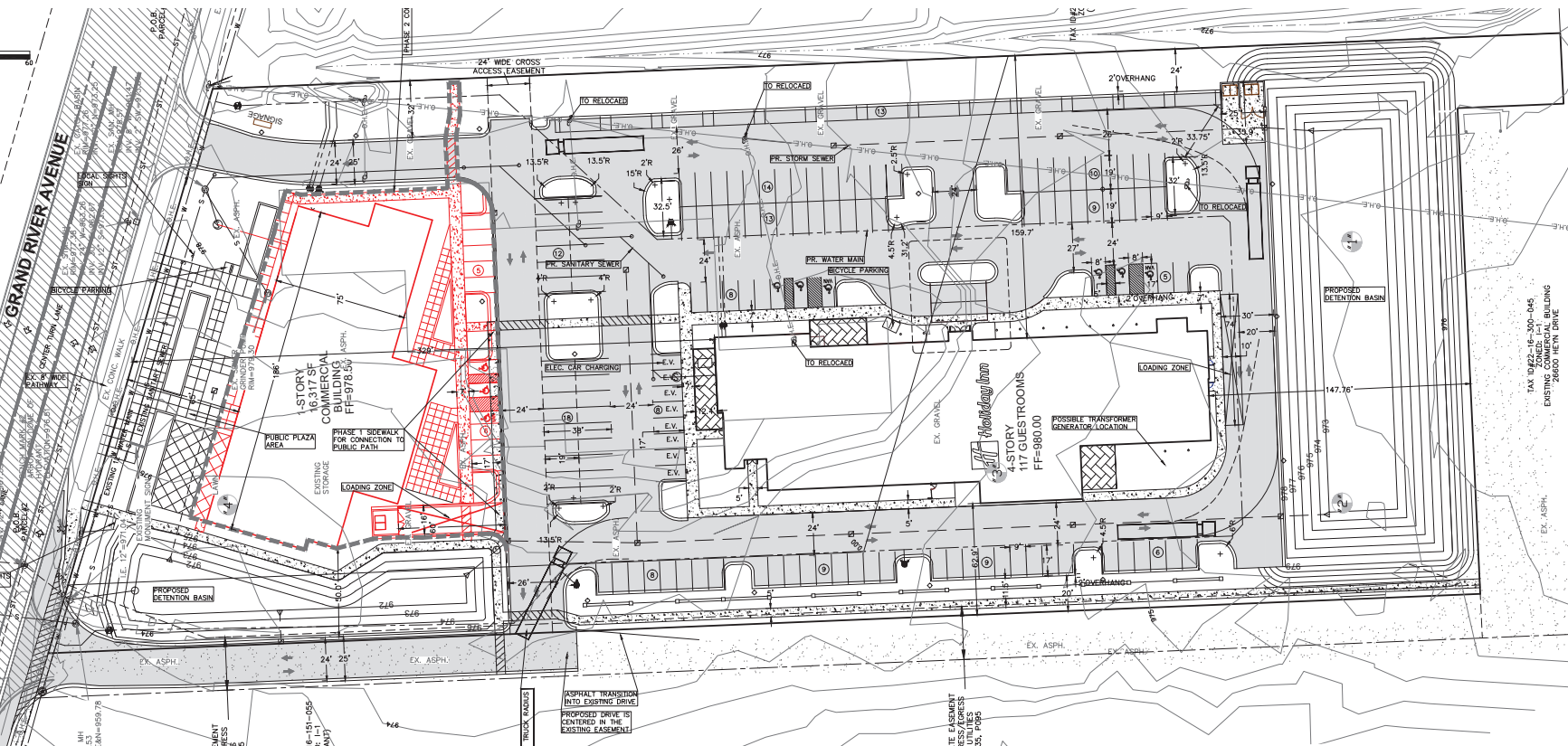
ISSUE DATES

CONCEPT PLAN	DATE
CONCEPT PLAN	6-20-21
SITE PLAN	6-20-21
WATER STOP BOX	6-20-21
WATER VALVE	6-20-21
SPEAKER BOX	6-20-21
POWER POLE	6-20-21
ROUND CATCH BASIN	6-20-21

ISSUED	REV.
APPROVED	ISS
APPROVED	MCP
P.E. JOB NO.	18-420
SCALE	AS SHOWN



SCALE 1"=30'



LEGEND

●	MONUMENT / SECTION CORNER
○	FOUND PROPERTY IRON
○	SET PROPERTY IRON
○	EXISTING CATCHBASIN
○	EXISTING MANHOLE/CATCHBASIN
○	EXISTING MANHOLE
○	EXISTING HYDRANT
○	EXISTING VALVE
○	EXISTING SANITARY SEWER
○	EXISTING STORM SEWER
○	EXISTING WATERMAIN
○	EXISTING FENCE LINE
○	EXISTING UNDERGROUND ELECTRIC LINE
○	EXISTING UNDERGROUND GAS LINE
○	EXISTING UNDERGROUND TELEPHONE LINE
○	EXISTING CENTERLINE
○	EXISTING OVERHEAD ELECTRICAL WIRES
○	EXISTING MAILBOX / NEWSPAPER BOX
○	EXISTING SIGN
○	EXISTING DECIDUOUS TREES
○	EXISTING CONIFEROUS TREES
○	EXISTING UTILITY POWER POLE
○	EXISTING TELEPHONE RISER

LEGEND

---	EXISTING PROPERTY BOUNDARY
---	EXISTING OFFSITE PROPERTY BOUNDARY
---	EXISTING EDGE OF PAVEMENT
---	EXISTING WATERMAIN, HYDRANT AND DV
---	EXISTING STORM SEWER, CATCH BASIN, MANHOLE
---	EXISTING SANITARY, SANITARY MANHOLE
---	EXISTING OFFSITE BUILDING
---	PROPOSED BUILDING
---	PROPOSED CENTOUR
---	PROPOSED UTILITY EASEMENT
---	PROPOSED CURB WITH REVERSE GUTTER
---	PROPOSED EDGE OF PAVEMENT
---	PROPOSED EDGE OF CONCRETE WALK
---	PROPOSED SANITARY SEWER, SANITARY MANHOLE
---	PROPOSED STORM SEWER, CATCH BASIN, MANHOLE
---	PROPOSED WATERMAIN, HYDRANT, GATE VALVE
---	EXISTING ROAD PAVEMENT
---	EXISTING CONCRETE WALK
---	PROPOSED CONCRETE WALK/PAVEMENT
---	EXISTING CONCRETE WALK
---	PROPOSED CONCRETE WALK w/ THICKENED EDGE
---	PROPOSED ASPHALT PAVING
---	FLYV ARROY
---	PROPOSED SPOT ELEVATION
---	EXISTING SPOT ELEVATION

Consulting Civil Engineers
"Engineering 4 Better Michigan"

Powell
Engineering & Associates, LLC

4700 Concession Drive, White Lake, Michigan 48183
P: 248.749.8555 info@powelleng.com

BEFORE YOU DIG
CALL MISS DIG
1-800-482-7177

HOLIDAY INN
DIMENSIONAL PLAN
HOLIDAY INN
SOUTH OF GRAND RIVER, EAST OF BECK ROAD

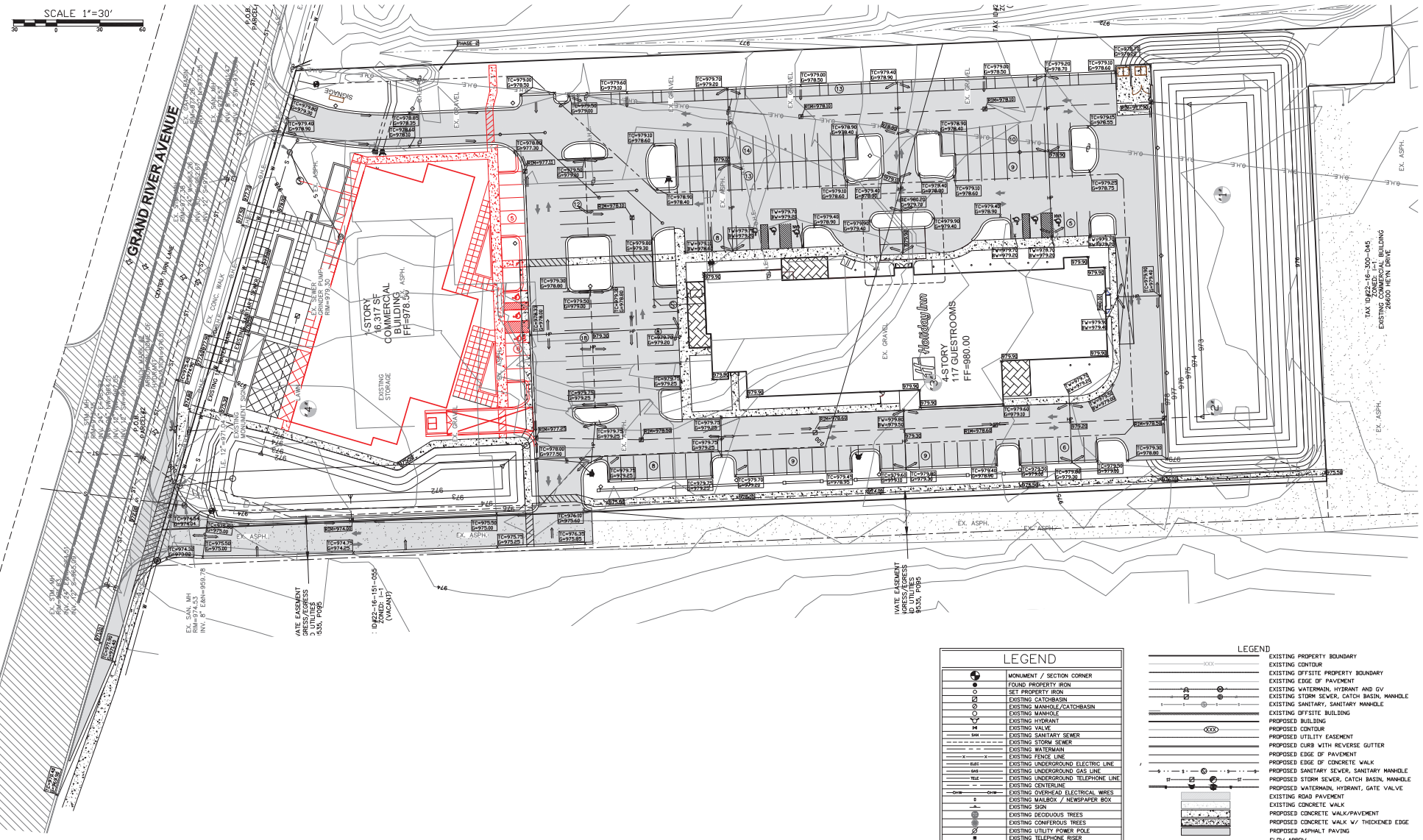
ISSUE DATES

CONCEPT PLAN	12-11-21
CONCEPTUAL PLAN	4-22-22
SITE PLAN	6-23-22
UTILITY PLAN	8-11-22
PROPOSED PLAN	7-23-22
PROPOSED PLAN	9-12-22

DRAWN	JBK
DESIGNED	JBK
APPROVED	MCP
P.E. JOB NO.	18-420
SCALE	AS-SHOWN



SCALE 1"=30'



EX. SAN. MH
RM=974.53
INV. 5' 8.00in=935.79

NOTE: EXISTING
SANITARY SEWER
3 UTILITIES
SSS, POPS

1022-16-151-055
ZONED: L-1
(City of Troy)

LEGEND	
	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	EXISTING HYDRANT
	EXISTING VALVE
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATERMAIN
	EXISTING FENCE LINE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING UNDERGROUND GAS LINE
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING CENTERTLINE
	EXISTING OVERHEAD ELECTRICAL WIRES
	EXISTING MAILBOX / NEWSPAPER BOX
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER

LEGEND	
	EXISTING PROPERTY BOUNDARY
	EXISTING CONTOUR
	EXISTING OFFSITE PROPERTY BOUNDARY
	EXISTING EDGE OF PAVEMENT
	EXISTING WATERMAIN, HYDRANT AND GV
	EXISTING STORM SEWER, CATCH BASIN, MANHOLE
	EXISTING SANITARY SEWER, MANHOLE
	EXISTING OFFSITE BUILDING
	PROPOSED BUILDING
	PROPOSED CONTOUR
	PROPOSED UTILITY EASEMENT
	PROPOSED CURB WITH REVERSE GUTTER
	PROPOSED EDGE OF PAVEMENT
	PROPOSED EDGE OF CONCRETE WALK
	PROPOSED SANITARY SEWER, SANITARY MANHOLE
	PROPOSED STORM SEWER, CATCH BASIN, MANHOLE
	PROPOSED WATERMAIN, HYDRANT, GATE VALVE
	EXISTING ROAD PAVEMENT
	EXISTING CONCRETE WALK
	PROPOSED CONCRETE WALK/PAVEMENT
	PROPOSED CONCRETE WALK W/ THICKENED EDGE
	PROPOSED ASPHALT PAVING
	FLOW ARROW
	EXISTING SPOT ELEVATION

Consulting Civil Engineers
"Engineering a Better Michigan"



WEED, AS SHOWN IN THE CONTRACT DOCUMENTS, IS THE RESULT OF THE DESIGN PROFESSIONAL'S VISUAL INSPECTION OF THE SITE AND THE INFORMATION PROVIDED BY THE CLIENT. THE DESIGN PROFESSIONAL HAS NOT CONDUCTED A SURVEY OF THE SITE AND IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE DESIGN PROFESSIONAL HAS NOT CONDUCTED A SURVEY OF THE SITE AND IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE DESIGN PROFESSIONAL HAS NOT CONDUCTED A SURVEY OF THE SITE AND IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED.



BEFORE YOU DIG
CALL MISS DIG
1-800-462-7177

HOLIDAY INN GRADING PLAN

HOLIDAY INN
SOUTH OF GRAND RIVER, EAST OF BECK ROAD

ISSUE DATES	
CONCEPT PLAN	10-21-21
CONCEPT PLAN	6-23-21
SITE PLAN	6-23-21
SITE PLAN	01-18-21
SITE PLAN	7-23-21
SITE PLAN	9-12-21

ISSUED	SSS
REVISION	SSS
APPROVED	MCP
P.E. JOB NO.	18-420
SCALE	AS SHOWN

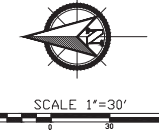
PRELIMINARY STORM DRAINAGE NARRATIVE:

THE DEVELOPMENT WILL BE PHASED 1 AND 2. PHASE 1 WILL BE THE HOTEL AND A PORTION OF THE PUBLIC SPACE. PHASE 2 WILL BE THE COMMERCIAL AREA AND THE REMAINDER OF THE PUBLIC SPACE.

STORM DRAINAGE MANAGEMENT WILL BE ACCOMPLISHED BY COLLECTING DRAINAGE IN STORM SEWER AND STORING IT IN DETENTION BASINS AND OUTFLETTING INTO THE EX. STORM SEWER AT THE NW CORNER OF THE SITE AT AN AGRICULTURAL RATE. THE SOUTHERLY BASIN WILL HOLD THE MAJORITY OF THE WATER UP TO THE 978 ELEVATION. CB#11 WILL HAVE A RESTRICTED OUTLET AND RELEASE THE SOUTH BASINS VOLUME AT A REGULATED RATE. THE NORTH BASIN WILL STORE DETENTION VOLUME AND PASS THE SOUTH BASINS VOLUME THRU THE OUTLET STRUCTURE AT THE NORTH END OF THE BASIN.

THE SOUTH DRAINAGE AREA IS 3.1 ACRES AND REQUIRES 41,000 CF OF STORAGE (100YR STORM) AND IS ACCOMMODATED IN THE SOUTH BASIN.

THE NORTH DRAINAGE AREA IS 1.8 ACRES AND REQUIRES 17,500 CF OF STORAGE WHICH IS ACCOMMODATED IN THE NORTH BASIN.

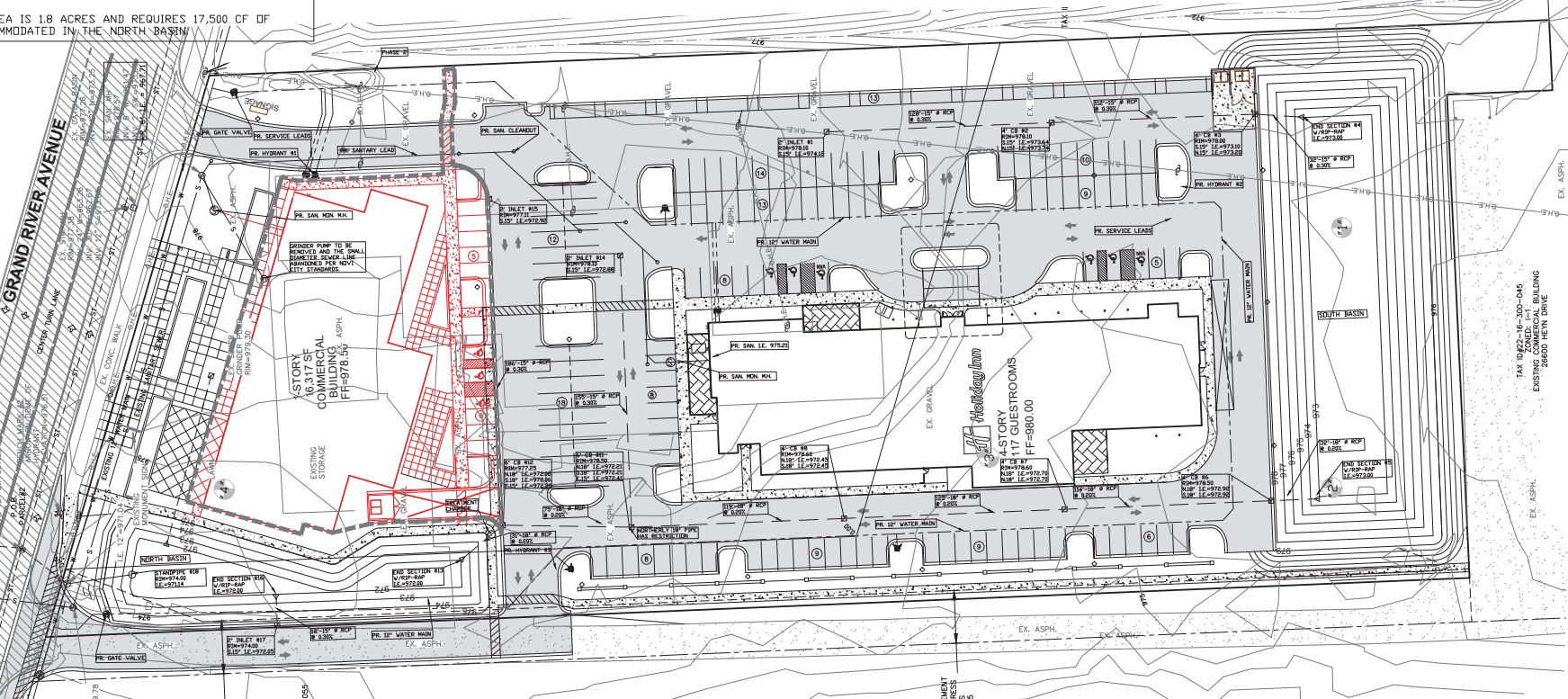


TEST HOLES:

PER POWELL ENGINEERING 3-21-2020	TEST HOLE "1"	0.5' TOPSOIL	TEST HOLE "2"	0.5' TOPSOIL
	TEST HOLE "3"	10.5' CLAY LOAM	TEST HOLE "4"	11.5' CLAY LOAM
	TEST HOLE "5"	11.5' CLAY LOAM	TEST HOLE "6"	0.5' TOPSOIL
	TEST HOLE "7"	0.5' TOPSOIL	TEST HOLE "8"	11.0' CLAY LOAM
	TEST HOLE "9"	7.5' CLAY LOAM	TEST HOLE "10"	1.0' GRAY CLAY
	TEST HOLE "11"	11.0' CLAY LOAM		

Consulting Civil Engineers
Powell Engineering & Associates, LLC
 Engineering • Water • Michigan™
 4700 Cassadaga Drive, White Lake, Michigan 48393
 P: 248.749.8555 info@powelleng.com

BEFORE YOU DIG
 CALL MISS DIG
 1-800-482-7177



LEGEND

●	MONUMENT - SECTION CORNER
○	FOUND PROPERTY IRON SET PROPERTY IRON
⊕	EXISTING CATCHBASIN
⊙	EXISTING MANHOLE / CATCHBASIN
⊖	EXISTING MANHOLE
⊗	EXISTING HYDRANT
⊘	EXISTING VALVE
—	EXISTING SANITARY SEWER
—	EXISTING STORM SEWER
—	EXISTING WATERMAIN
—	EXISTING FENCE LINE
—	EXISTING UNDERGROUND ELECTRIC LINE
—	EXISTING UNDERGROUND GAS LINE
—	EXISTING UNDERGROUND TELEPHONE LINE
—	EXISTING CENTERLINE
—	EXISTING OVERHEAD ELECTRICAL WIRES
—	EXISTING MAILBOX / NEWSPAPER BOX
—	EXISTING SIGN
—	EXISTING DECIDUOUS TREES
—	EXISTING CONIFERUS TREES
—	EXISTING UTILITY POWER POLE
—	EXISTING TELEPHONE RISER

LEGEND

—	EXISTING PROPERTY BOUNDARY
—	EXISTING CONTOUR
—	EXISTING OFFSITE PROPERTY BOUNDARY
—	EXISTING EDGE OF PAVEMENT
—	EXISTING WATERMAIN, HYDRANT AND GV
—	EXISTING STORM SEWER, CATCH BASIN, MANHOLE
—	EXISTING SANITARY, SANITARY MANHOLE
—	EXISTING OFFSITE BUILDING
—	PROPOSED BUILDING
—	PROPOSED CONTOUR
—	PROPOSED UTILITY EASEMENT
—	PROPOSED CURB WITH REVERSE GUTTER
—	PROPOSED EDGE OF PAVEMENT
—	PROPOSED EDGE OF CONCRETE WALK
—	PROPOSED SANITARY SEWER, SANITARY MANHOLE
—	PROPOSED STORM SEWER, CATCH BASIN, MANHOLE
—	PROPOSED WATERMAIN, HYDRANT, GATE VALVE
—	EXISTING ROAD PAVEMENT
—	EXISTING CONCRETE WALK
—	PROPOSED CONCRETE WALK / PAVEMENT
—	PROPOSED ASPHALT PAVING
—	PROPOSED ASPHALT PAVING
—	PROPOSED SPOT ELEVATION
—	EXISTING SPOT ELEVATION

ISSUE DATES

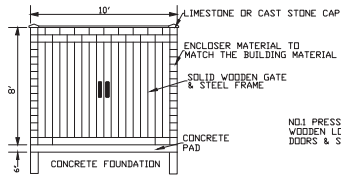
CONCEPT PLAN	6-20-21
CONCEPTUAL PLAN	6-20-21
SITE PLAN	6-20-21
SITE PLAN	6-20-21
SITE PLAN	7-13-21
SITE PLAN	9-1-21

DRAWN: [initials] / [initials]
 REVISION: [initials]
 APPROVED: MCP
 P.E. JOB NO. 18-420
 SCALE: AS SHOWN
S4

HOLIDAY INN UTILITY PLAN
 HOLIDAY INN
 SOUTH OF GRAND RIVER, EAST OF BECK ROAD

GRAND RIVER AVENUE
 26000 GRAND RIVER AVENUE
 GRAND RIVER, MI 48831

30' PRIVATE EASEMENT FOR INGRESS/EGRESS TO/ FROM 2302501 POND
 TAX ID#22-16-151-055 (VACANT)
 TAX ID#22-16-300-045 (VACANT) 28800 HEWY DRIVE

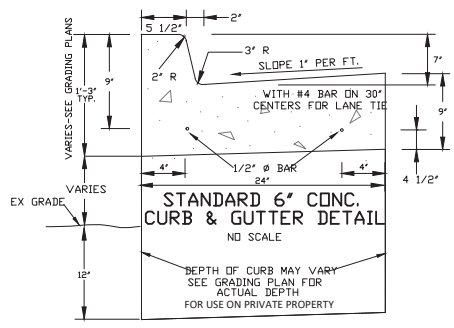
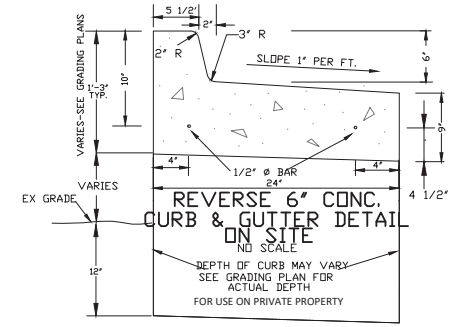
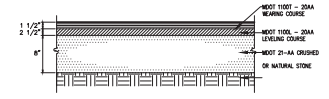
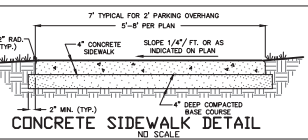
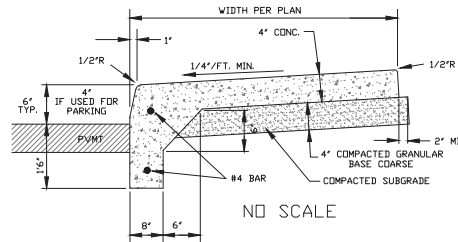
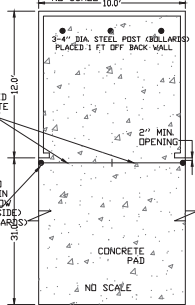


FRONT ELEVATION
DUMPSTER GATE
NO SCALE

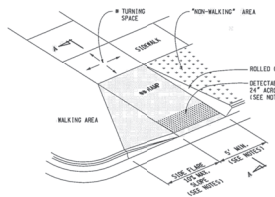
ND1 PRESSURE TREATED
WOODEN LOCKABLE GATE
DOORS & STEEL FRAME

FILLED WITH CONCRETE TO
ALSO BE GATE POST SET IN
CONCRETE MIN. DEPTH BELOW
GRADE TO BE 42" (EACH SIDE)
6" DIA. STEEL POST (BOLLARDS)

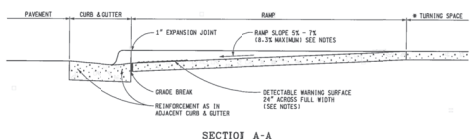
DUMPSTER PAD DETAIL
NO SCALE 10.0'



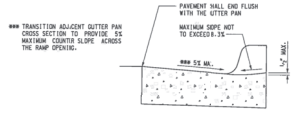
• MAXIMUM TURNING SPACE SLOPE IS 5% IN EACH DIRECTION OF TRAVEL - MINIMUM DIMENSION 5' x 5' - SEE NOTES.
• MAXIMUM RAMP CROSS SLOPE IS 5.0% RUNNING SLOPE IS 5% - 7% (EX. 2% MAXIMUM) - SEE NOTES.



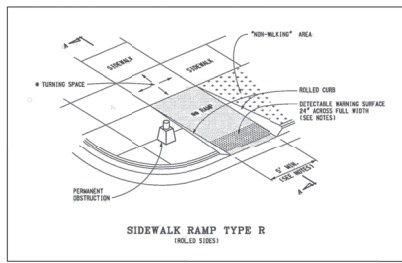
SIDEWALK RAMP TYPE RF
(SOLID / FLARED SIDES)



SECTION A-A



SECTION THROUGH CURB CUT
(TYPICAL ALL RAMP TYPES)



SIDEWALK RAMP TYPE R
(ROLLED SIDES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**
3-26-2013 10-3-2013 R-28-H SHEET
F.A.L.A. APPROVAL PLAN DATE 2 OF 1

Consulting Civil Engineers
"Engineering A Better Michigan"



4700 Concession Drive, White Lake, Michigan 48383
P: 248-749-8555 info@powelleng.com



BEFORE YOU DIG
CALL MISS DIG
1-800-482-7177

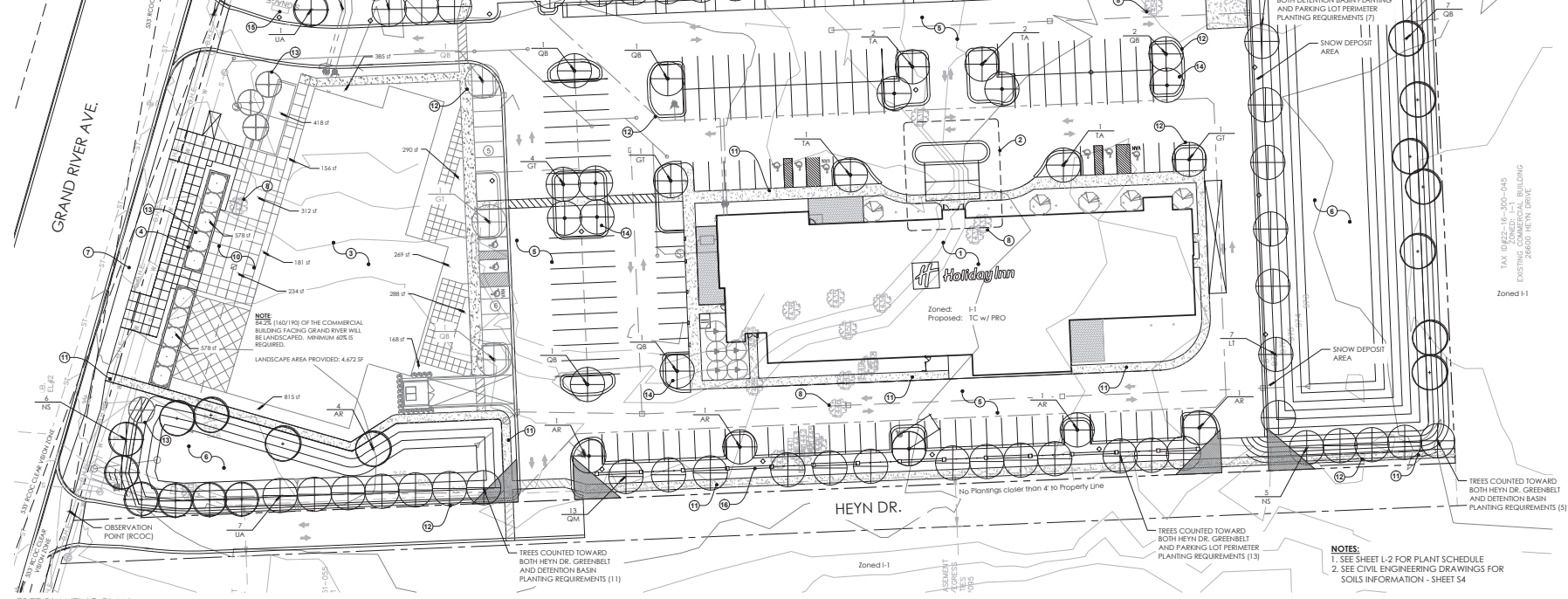
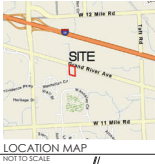
**HOLIDAY INN
STANDARD DETAILS**
HOLIDAY INN
SOUTH OF GRAND RIVER, EAST OF BECK ROAD

ISSUE DATES

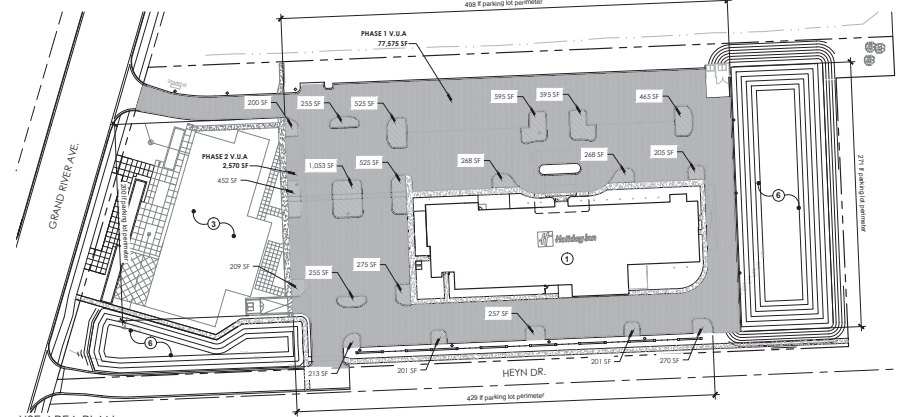
CONCEPT PLAN	10-21-13
CONCEPT PLAN	4-22-13
SITE PLAN	6-20-13
SITE PLAN	01-15-14
SITE PLAN	7-23-14
SCALE	AS SHOWN

DRAWN	SSB
DESIGNED	SSB
APPROVED	MCP
P.E. JOB NO.	14-403
SCALE	AS SHOWN

S5



TREE PLANTING PLAN
SCALE: 1" = 30'-0"



USE AREA PLAN
SCALE: 1" = 60'-0"

Site Landscape Calculations

INTERIOR PARKING AREA LANDSCAPE REQUIREMENTS:

TOTAL VEHICULAR USE AREA (Phase 1 & 2): 80,143 sf

PHASE 1: 77,575 (HOTEL)

PHASE 2: 2,570 (COMMERCIAL)

A: LANDSCAPE AREA REQUIRED: 3,750 sf. (50,000 x 7.5%)

R: LANDSCAPE AREA REQUIRED: 302 sf. (50,143 x 1.0%)

C: TOTAL AREA REQUIRED: 4,052 sf. (A+B)

TOTAL AREA PROVIDED: 4,692 sf.

D: SHADE TREES REQUIRED: 21 (4,052 / 200)

SHADE TREES PROVIDED: 24*

*Note: Three (3) trees are to be planted in Phase 2 and one not included in the plant schedule.

E: PERIMETER TREES REQUIRED: 40 (1,398 / 35)

PERIMETER TREES PROVIDED: 40

ACCESS WAY PERIMETER TREES: 3 (85+25 / 35)

TREES PROVIDED: 3

DETECTION BASIN, REQUIRED LANDSCAPE:

SOUTH BASIN:

TOTAL BASIN LENGTH: 739 ft.

LANDSCAPE REQUIRED: 518 (739 x 0.7)

LANDSCAPE PROVIDED: 520

TREES REQUIRED: 22 (739/35)

TREES PROVIDED: 22

NORTH BASIN:

TOTAL BASIN LENGTH: 502 ft.

LANDSCAPE REQUIRED: 352 (502 x 0.7)

LANDSCAPE PROVIDED: 347 (73%)

TREES REQUIRED: 15 (502/35)

TREES PROVIDED: 15

BUILDING FOUNDATION, REQUIRED LANDSCAPE:

TOTAL BUILDING LENGTH: 737 ft.

LANDSCAPE REQUIRED: 5,896 sf (737 x 8)

LANDSCAPE PROVIDED: 4,234 sf

% OF HOTEL FOUNDATION - 77.7% (573 / 737)

GREENBELT, REQUIRED LANDSCAPE:

BY THE TIC DISTRICT, ONLY THE LARGE TREE OR SUB-CANOPY TREE REQUIREMENT MUST BE MET, BUT NOT BOTH

NOTE: THE APPLICANT IS USING SUB-CANOPY TREES ALONG GRAND RIVER AND DECIDUOUS CANOPY TREES ALONG HEYN DRIVE TO FULFILL THIS REQUIREMENT.

SUB-CANOPY TREES

GRAND RIVER AVE:

- NOT ADJ. TO PARKING (327-28-10) = 2891/20

SUB-CANOPY TREES REQUIRED: 14

SUB-CANOPY TREES PROVIDED: 14*

*NOTE: See Sheet L-4 for location

DECIDUOUS CANOPY TREES

HEYN DRIVE:

- ADJACENT TO PARKING (508-24) / 25 = 19 TREES

- NOT ADJ. TO PARKING 290 / 30 = 10 TREES

CANOPY TREES REQUIRED: 29

CANOPY TREES PROVIDED: 29

EXISTING SITE PLANT MATERIAL NOTES:

THE SHRUBBET GROWTH CONSIST PREDOMINANTLY OF BUCKTHORN AND TREE-OF-HEAVEN SAPLINGS.

NO PRAGMATES WAS LOCATED ON SITE.

SEE SHEET S4 FOR EXISTING SOILS INFORMATION.

Note Key:

1. PROPOSED HOTEL, SEE ARCHITECTURE, SEE SHEET L-2 FOR ENLARGEMENT AND FOUNDATION PLANTINGS.
2. PROPOSED HOTEL CANOPY, SEE ARCHITECTURE
3. PROPOSED PHASE 2 RESTAURANT & RETAIL BUILDING
4. PHASE 1 STRIPESCAPE REMAINT AND LANDSCAPING, SEE ENLARGEMENT SHEET L-4
5. ASPHALT PARKING LOT, SEE CIVIL ENGINEERING DRAWINGS
6. DETENTION BASIN, SEE ENLARGEMENT SHEET L-3
7. EXISTING SIDEWALK ALONG GRAND RIVER
8. EXISTING TREES TO BE REMOVED, PER THE CITY OF NOVI REGULATED WOODLAND MAP, THERE ARE NO REGULATED WOODLANDS ON SITE.
9. EXISTING TREES TO REMAIN, SEE TYPICAL TREE PROTECTION DETAIL SHEET L-4
10. PHASE 2 PLAZA AND LANDSCAPING
11. CONCRETE WALK, TYPICAL
12. DECIDUOUS CANOPY TREE, SEE TYPICAL DETAIL
13. SUB-CANOPY TREE, SEE ENLARGEMENT SHEET L-4, SEE TYPICAL DETAIL (GRAND RIVER GREEN BELT PLANTING)
14. LAWN OVER MINIMUM 3" DEPTH TOPSOIL, TYPICAL ALL PARKING LOT GRASSES UNLESS OTHERWISE INDICATED
15. PROPOSED MONUMENT SIGN
16. PROPOSED DECORATIVE WALL AND FENCE, SEE DETAIL SHEET L-4

SURVEY PROVIDED BY:
POWELL ENGINEERING, LLC
4700 Southfield Drive
Westland, MI 48093
313-741-8865



Project:
04.21.2020 Conceptual PRO
10.27.2020 Revision
04.09.2021 Revision
06.15.2021 Revision

Project:
HOLIDAY INN
Grand River Avenue
Novi, Michigan

Project Sponsor:
Mr. Mike Shammami
30715 West 12 Mile Road
Farmington Hills, MI 48334

Sheet Name:
Overall Landscape Plan

NOT FOR CONSTRUCTION



Drawn: JG
Checked: JG
Date: 04.2020
Scale: As Noted

Project Number:
20.011

Sheet Number:
L-1

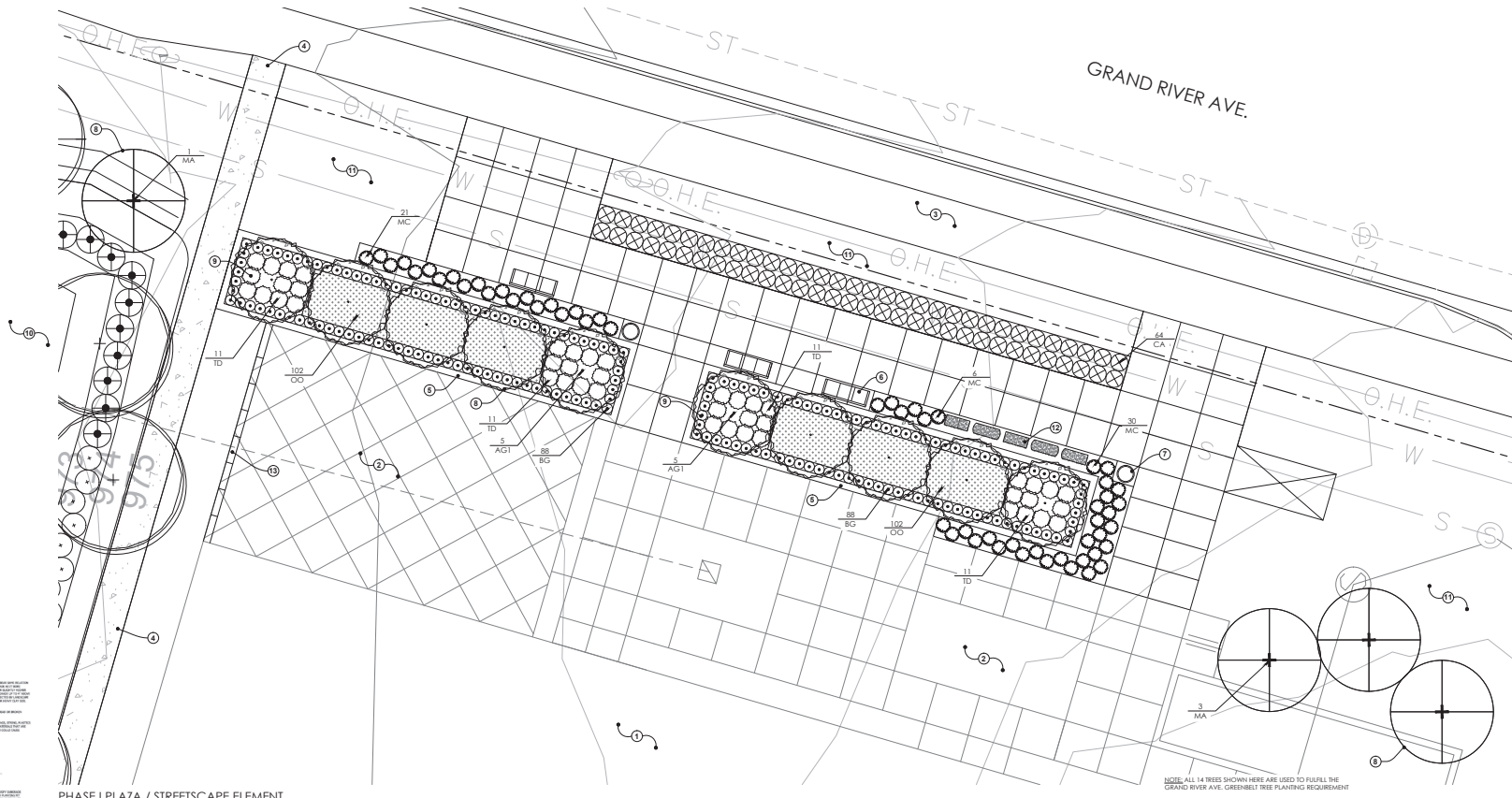
© 2020 Vert Verde Landscape Architecture, LLC

HOLIDAY INN
Grand River Avenue
Novi, Michigan

Project Sponsor:
Mr. Mike Shammami
30715 West 12 Mile Road
Farmington Hills, MI 48334

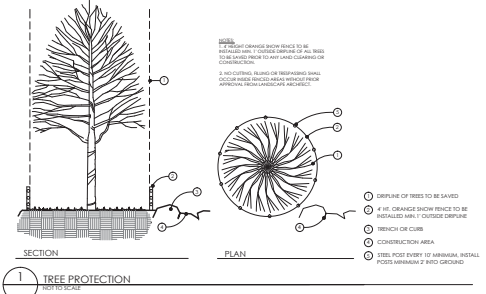
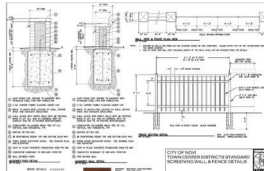
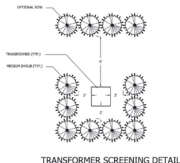
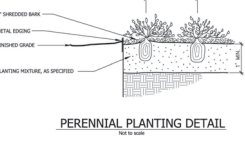
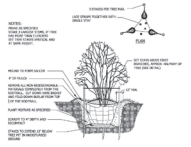
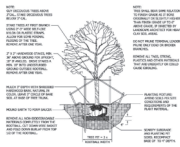
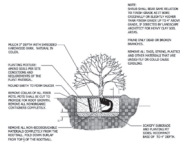
Sheet Name:
**Landscape Plan
Enlargement**

NOT FOR CONSTRUCTION



PHASE I PLAZA / STREETSCAPE ELEMENT
SCALE: 1/8" = 1'-0"

NOTE: ALL 14 TREES SHOWN HERE ARE USED TO FULFILL THE GRAND RIVER AVE. GREENBELT TREE PLANTING REQUIREMENTS



- Note Key:**
- 1 PROPOSED PHASE 2 COMMERCIAL BUILDING
 - 2 PHASE 2 PLAZA AND LANDSCAPING
 - 3 EXISTING WALK AT GRAND RIVER
 - 4 CONCRETE WALK, TYPICAL
 - 5 PRECAST CONCRETE BLOCK BASED PLANTER / SEAT WALL
 - 6 BENCH, THREE (3) TOTAL
 - 7 TRASH RECEPTACLE, TWO (2) TOTAL
 - 8 SUB-CANOPY ORNAMENTAL TREE, SEE TYPICAL DETAIL THIS SHEET. SEE PLANT SCHEDULE SHEET L-2. SEE SITE CALCULATIONS SHEET L-1
 - 9 SHRUB PLANTING, SEE TYPICAL DETAIL. SEE PLANT SCHEDULE SHEET L-2
 - 10 NORTH DETENTION BASIN, SEE SHEET L-3
 - 11 LAWN OVER MINIMUM 3" DEPTH TOPSOIL
 - 12 LARGE DECORATIVE STREET ADDRESS NUMBERS - TO BE COMPLETED IN PHASE I
 - 13 FINISH OF CURB
 - 14 CONCERNION SIGN AREA
 - 15 DECORATIVE SCREEN WALL - TO BE COMPLETED IN PHASE II

NOTE: The root ball soil must be pulled back to expose the root flare on all trees

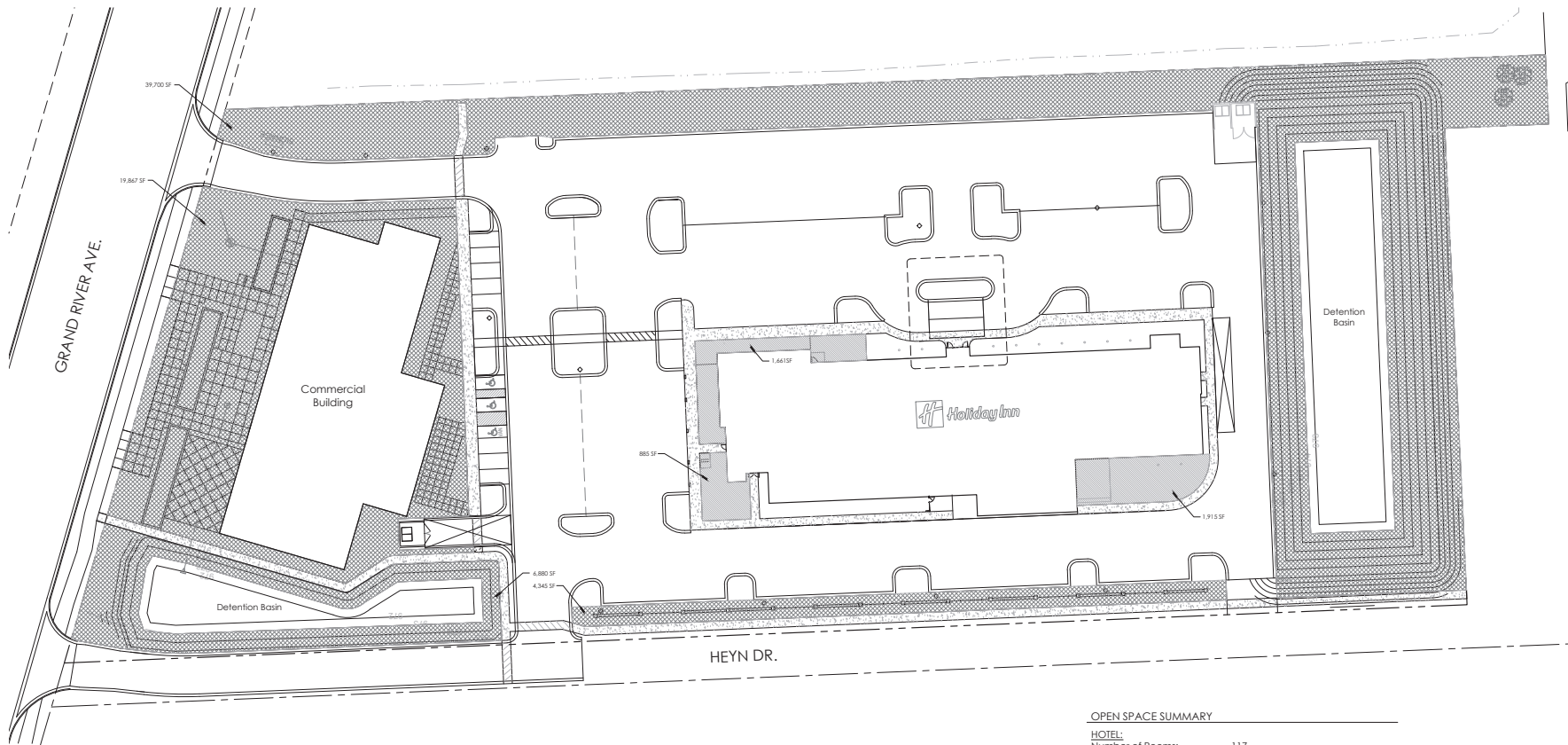
811
Know what's below
Call before you dig
888.8.8881
www.811.org



Drawn: JG
Checked: JG
Date: 04.2020
Scale: As Noted

Project Number: 20.011
Sheet Number: L-4

**NOT FOR
CONSTRUCTION**



OPEN SPACE SUMMARY

<u>HOTEL:</u>	
Number of Rooms:	117
Open Space Required:	3,510 sf (117*30)
Open Space Provided:	4,461 sf
<u>COMMERCIAL SITE:</u>	
Open Space:	55,443 sf
	26,437 sf (48.2%)
<u>REMAINDER OF SITE:</u>	
	44,045 SF.
<u>TOTAL SITE AREA:</u>	
	240,593 SF.
OPEN SPACE REQUIRED:	36,089 SF.
OPEN SPACE PROVIDED:	74,943 SF. - (31.15%)

Scale:

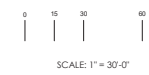


Drawn: JG
Checked: JG
Date: 04.2020
Scale: As Noted

Project Number:
20.011

Sheet Number:
OS-1

© 2020 Vert Verde Landscape Architecture, LLC



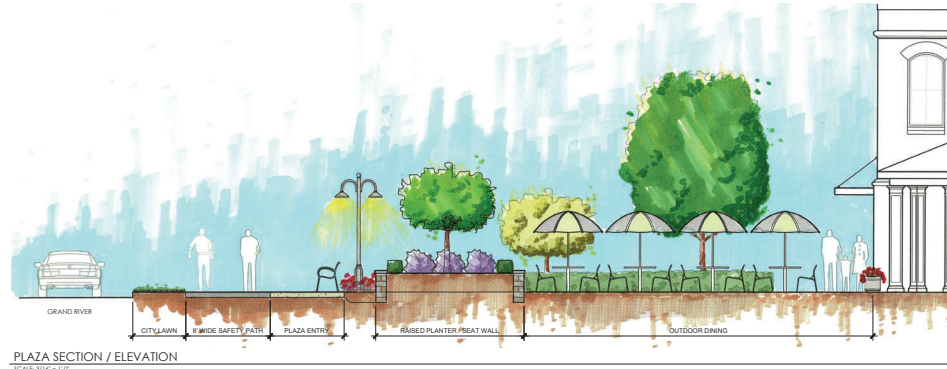
Decorative Street Number Signage



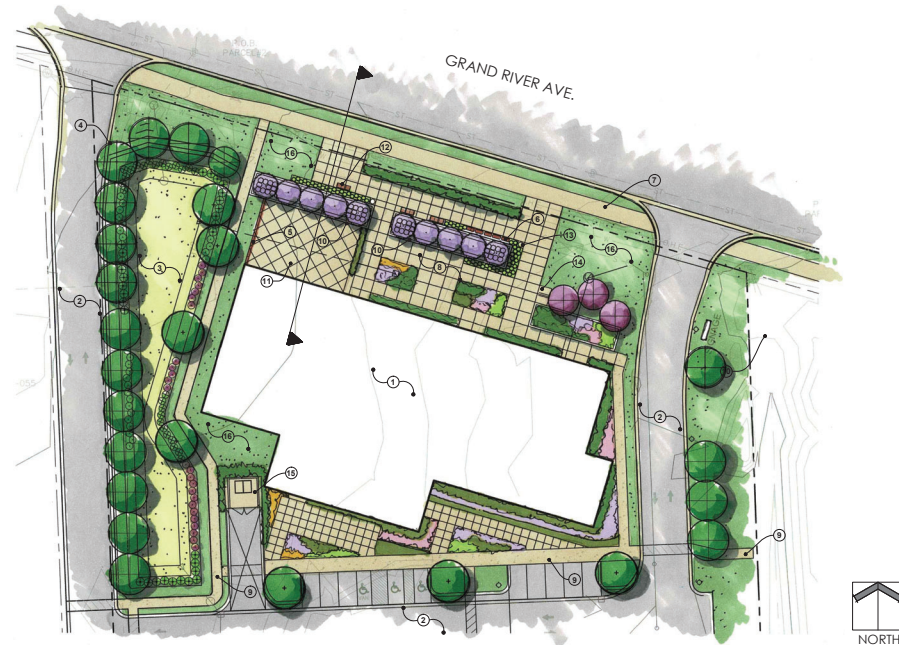
Site Furnishings



Decorative Screen Wall



PLAZA SECTION / ELEVATION
SCALE: 3/16" = 1'-0"



PLAZA ENLARGEMENT
SCALE: 1" = 20'-0"

Note Key:

- | | |
|---|--|
| ① PROPOSED COMMERCIAL BUILDING | ⑩ CONCRETE WALK |
| ② PARKING LOT & ENTRY DRIVES | ⑪ RAISED PLANTER / SEAT WALL |
| ③ DETENTION BASIN AND REQUIRED PLANTINGS | ⑫ OUTDOOR DINING AREA, WITH DECORATIVE PAVING |
| ④ ADDITIONAL STREET TREES TO MEET THE SPIRIT OF THE GRAND RIVER AVE CORRIDOR CONCEPTUAL MASTER PLAN | ⑬ BENCH; TYPICAL. ADDITIONAL BENCHES WILL BE PLACED INSIDE THE PLAZA DURING PHASE II |
| ⑤ DECORATIVE SCREEN WALL | ⑭ TRASH RECEPTACLE, TYPICAL |
| ⑥ LARGE DECORATIVE STREET NUMBER SIGNAGE | ⑮ BIKE PARKING |
| ⑦ EXISTING SIDEWALK | ⑯ DUMPSTER ENCLOSURE WITH MASONRY SURROUND |
| ⑧ PLAZA WITH EXTENSIVE LANDSCAPE PLANTINGS, SITE FURNISHINGS, AND RAISED PLANTERS / SEAT WALLS | ⑰ LAWN |

Sheet Name:
Plaza Concept

NOT FOR CONSTRUCTION

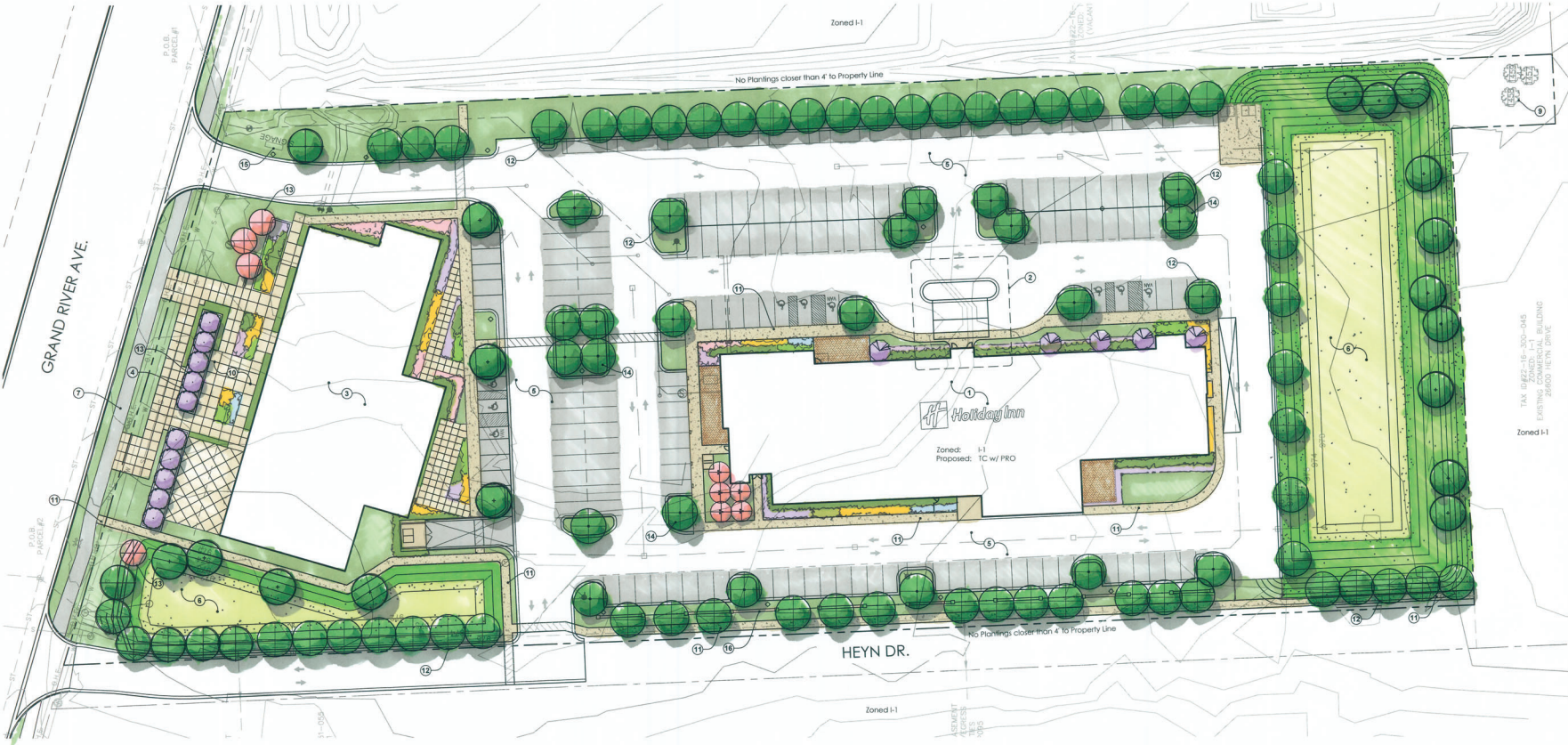
Drawn: JG
Checked: JG
Date: 08.12.2019
Scale: As Noted

Project Number:
19,029

Sheet Number:
CB-1



NOT FOR
CONSTRUCTION



Note Key:

- 1 PROPOSED HOTEL, SEE ARCHITECTURE, SEE SHEET L-3 FOR ENLARGEMENT AND FOUNDATION PLANNINGS.
- 2 PROPOSED HOTEL CANOPY, SEE ARCHITECTURE
- 3 PROPOSED PHASE 2 RESTAURANT & RETAIL BUILDING
- 4 PHASE 1 STREETCART ELEMENT AND LANDSCAPING, SEE ENLARGEMENT SHEET L-4
- 5 ASPHALT PARKING LOT, SEE CIVIL ENGINEERING DRAWINGS
- 6 DETENTION BASIN SEE ENLARGEMENT SHEET L-3
- 7 EXISTING SIDEWALK ALONG GRAND RIVER
- 8 EXISTING TREES TO BE REMOVED
- 9 EXISTING TREES TO REMAIN, SEE TYPICAL TREE PROTECTION DETAIL SHEET L-4
- 10 PHASE 2 PLAZA AND LANDSCAPING
- 11 CONCRETE WALK, TYPICAL
- 12 DECIDUOUS CANOPY TREE, SEE TYPICAL DETAIL
- 13 SUB-CANOPY TREE, SEE ENLARGEMENT SHEET L-4, SEE TYPICAL DETAIL (GRAND RIVER GREEN BELT PLANTING)
- 14 LAWN OVER MINIMUM 3' DEPTH TOPSOIL, TYPICAL ALL PARKING LOT ISLANDS UNLESS OTHERWISE INDICATED
- 15 PROPOSED MONUMENT SIGN
- 16 PROPOSED DECORATIVE WALL AND FENCE, SEE DETAIL SHEET L-4

SURVEY PROVIDED BY:
POWELL ENGINEERING, LLC
4700 Commerce Drive
White Lake, MI 48303
248.714.9999
POWELL JOB NUMBER: 18-422
DATED: 09/01/2020

0 15 30 60
SCALE: 1" = 30'-0"



Seal:

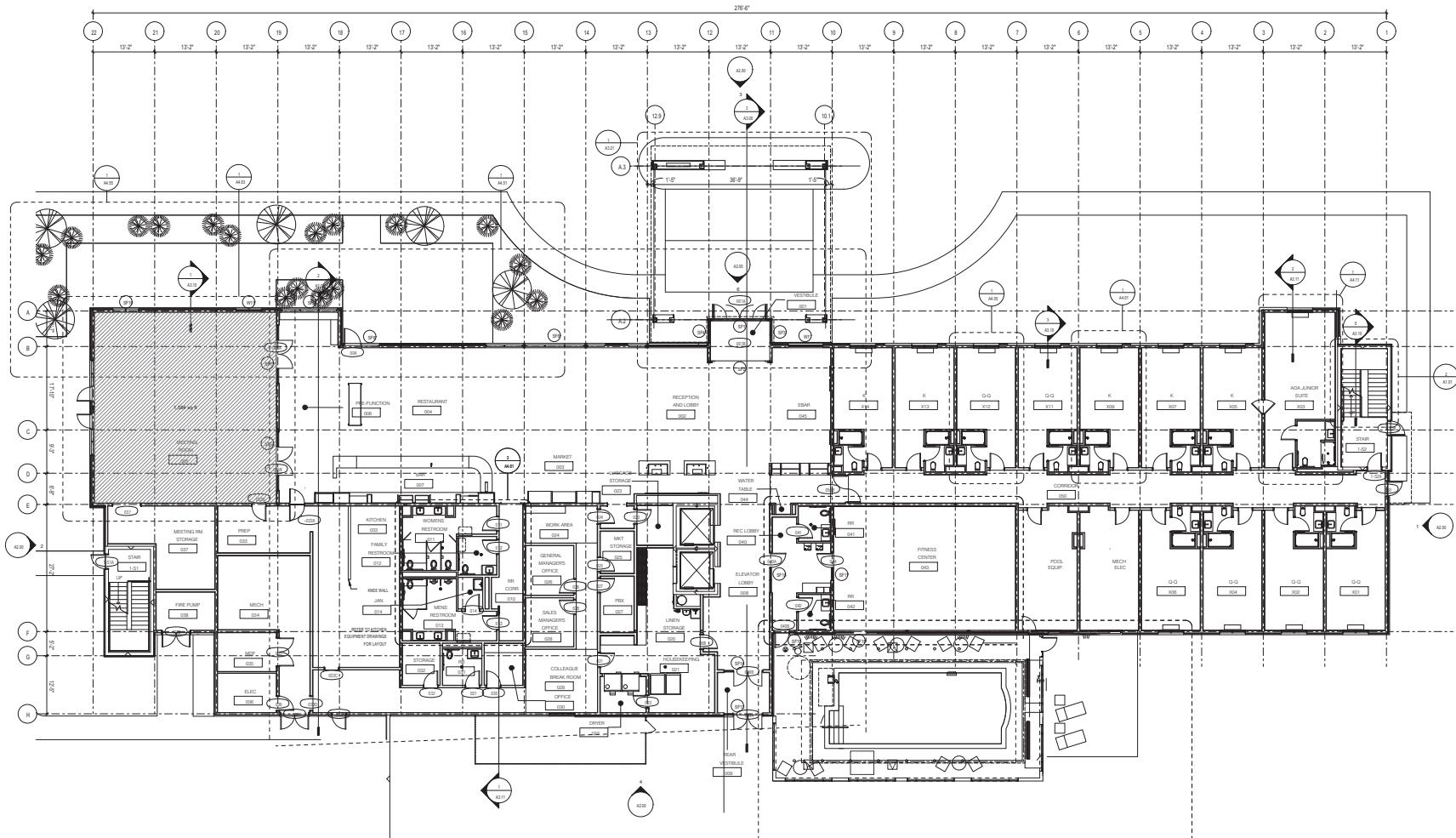


Drawn: JG
Checked: JG
Date: 04.20.20
Scale: As Noted

Project Number:
20.011

Sheet Number:
SR-1

© 2020 Vert Verde Landscape Architecture, LLC



First Floor Plan

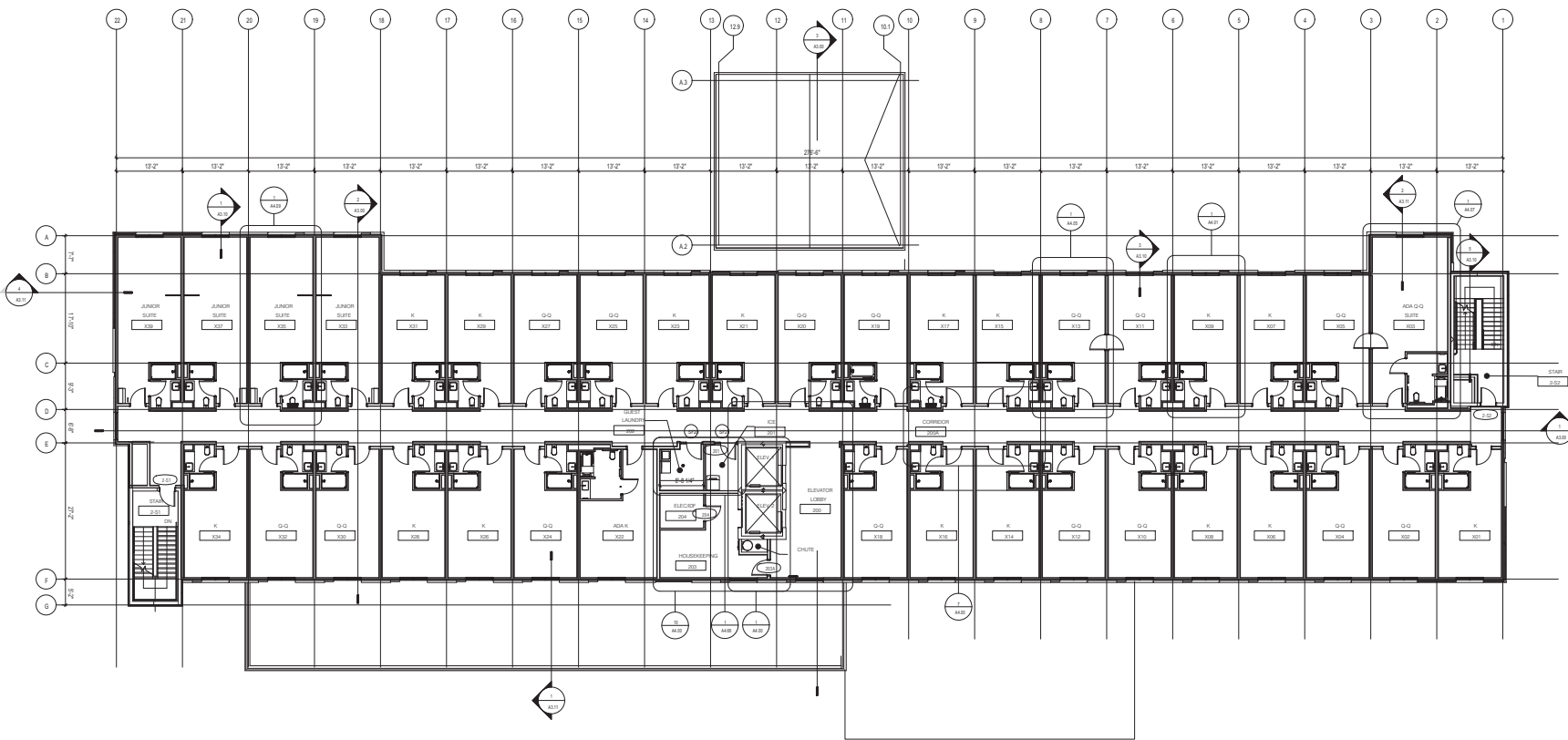
**Holiday Inn
Novi**
GRAND RIVER
NOVI, MI

6/23/2020	Concept
Date	DESCRIPTION

SHEET TITLE
First Floor Plan

A-101

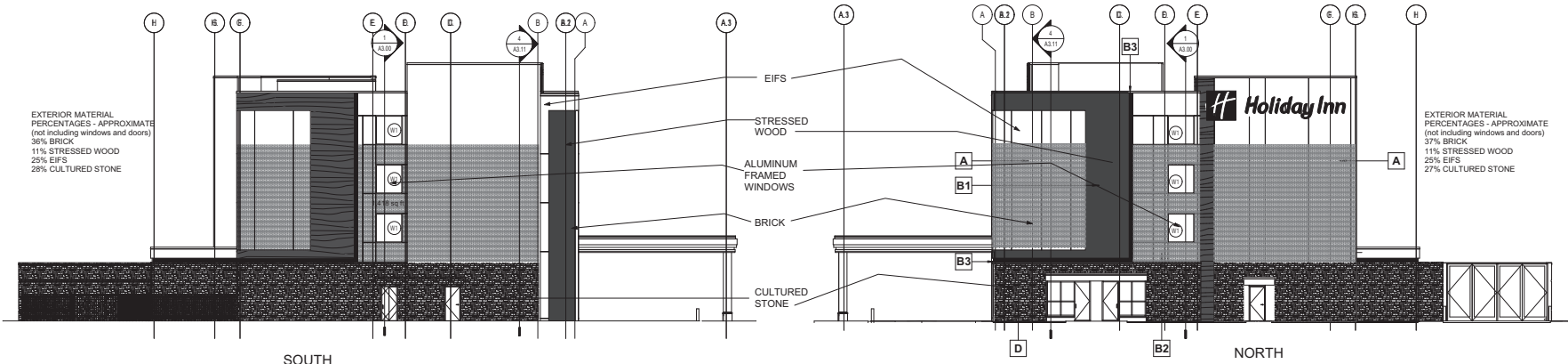
Holiday Inn
Novi
GRAND RIVER
NOVI, MI



6/23/2020	Concept
Date	DESCRIPTION

SHEET TITLE
2nd, 3rd and 4th
Floor Plan

A-102



EXTERIOR MATERIAL PERCENTAGES - APPROXIMATE (not including windows and doors)
 36% BRICK
 11% STRESSED WOOD
 25% EIFS
 28% CULTURED STONE

EXTERIOR MATERIAL PERCENTAGES - APPROXIMATE (not including windows and doors)
 37% BRICK
 11% STRESSED WOOD
 25% EIFS
 27% CULTURED STONE

SOUTH

NORTH



EXTERIOR MATERIAL PERCENTAGES - APPROXIMATE (not including windows and doors)
 40% BRICK
 13% STRESSED WOOD
 24% EIFS
 23% CULTURED STONE

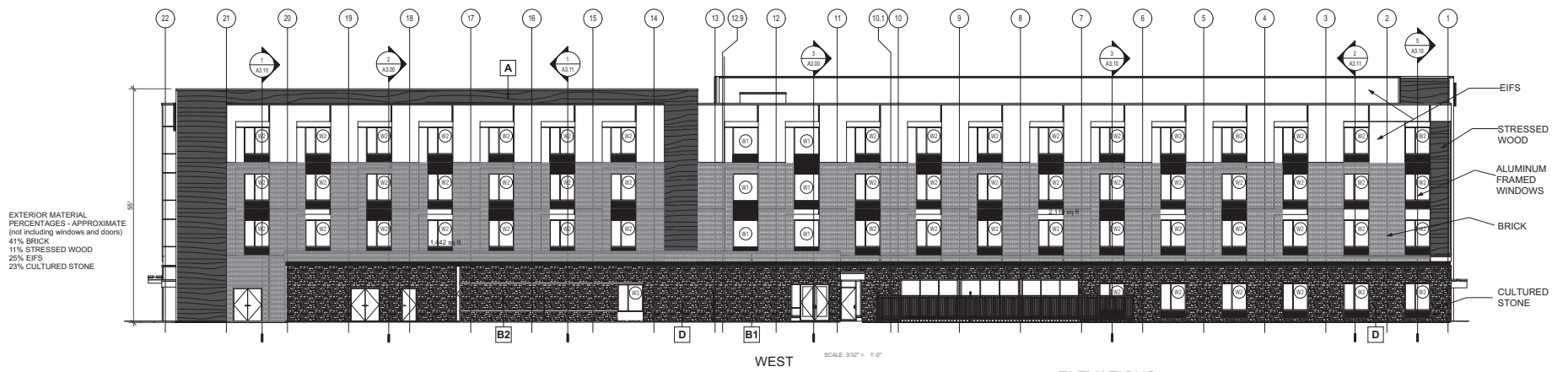
EAST

Holiday Inn
 Novi
 GRAND RIVER
 NOVI, MI

Date	DESCRIPTION
6/23/2020	Concept

SHEET TITLE
 Exterior Elevations

A-201



EXTERIOR MATERIAL PERCENTAGES - APPROXIMATE (not including windows and doors)
 41% BRICK
 11% STRESSED WOOD
 25% EIFS
 23% CULTURED STONE

WEST

SCALE: 3/32" = 1'-0"

ELEVATIONS

PLANNING REVIEW



PLAN REVIEW CENTER REPORT

August 23, 2021

Planning Review

Holiday Inn PRO

JZ19-24 PRO Concept Plan

PETITIONER

Grand River Show LLC

REVIEW TYPE

4th Revised PRO Concept from I-1 (Light Industrial) to TC (Town Center) with a Planned Rezoning Overlay (PRO)

PROPERTY CHARACTERISTICS

Section	16	
Site Location	South of Grand River, East of Beck Road; Parcel Id's: 22-16-300-050 & 22-16-300-051	
Site School District	Novi Community School District	
Site Zoning	I-1 Light Industrial	
Adjoining Zoning	North	OST Office Service Technology
	East	I-1 Light Industrial
	West	I-1 Light Industrial
	South	I-1 Light Industrial
Current Site Use	Vacant Land/Industrial building	
Adjoining Uses	North	Trucking/Auction House
	East	Park Recreation Fields
	West	Vacant
	South	Industrial building
Site Size	5.523 Acres	
Plan Date	July 23, 2021	

PROJECT SUMMARY

The petitioner is requesting a Zoning Map amendment for 5.52 acres of property east of Beck Road on the south side of Grand River Avenue (Section 16) from I-1 (Light Industrial) to TC (Town Center) utilizing the City's Planned Rezoning Overlay (PRO) option. The applicant states that the rezoning request is necessary to allow the development of a 4-story Holiday Inn hotel with 117 guest rooms and a 40-seat restaurant. A 16,413 square foot retail/restaurant building is also indicated along Grand River Avenue on the concept plan as a future phase. A public gathering area is proposed to the north of the commercial building along Grand River Avenue.

The parcels are currently zoned I-1 Light Industrial District, which does not permit hotel use. The Future Land Use map designates this area as City West, which is described as a redevelopment area in the City's Master Plan. Zoning Ordinance standards to implement the planned district have not yet been completed, so the applicant has chosen to use the PRO option. They have requested to be rezoned to Town Center District, which seems to be the district that would most closely match the mixed-use concept in their proposal, although that district was created for the area of the City

near the intersection of Grand River Avenue and Novi Road. The Town Center District does resemble the Master Plan's vision for the City West area for higher density, mixed-use development.

The project area is currently partially developed and undeveloped land. The two separate parcels would need to be combined prior final site plan approval.

PROJECT REVIEW HISTORY

The applicant submitted for a Pre-Application Meeting which was held on November 26, 2018. In June 2019, the applicant submitted a Planning Rezoning Overlay request with concept plan that proposed a 117-room, 4-story hotel with a sit-down restaurant. A future 10,145 square foot retail/restaurant building was also proposed; however no details of the building were provided. The project was presented to the Master Plan & Zoning Committee on December 11, 2019. The committee was on the whole supportive of the uses and building proposed, and encouraged the applicant to consider reducing the parking and thinking about pedestrian connections to the surrounding area. **Committee members indicated they would like to see a broader image to give context to the surrounding area, including recently built or proposed hotels, other local existing restaurants, and how pedestrians from the proposed hotel can get to Suburban Showplace.**

Based on staff, consultant, and Master Plan & Zoning Committee feedback, the applicant has since made 3 revision submittals to the PRO Concept Plan. In the most recent submittal (July 2021) the retail/restaurant building at the north end of the property is now shown as 16,413 square feet. The parking spaces have been reduced to 153 spaces. Additional sidewalks have been incorporated into the design and the number of deviations from ordinance standards have been reduced.

PRO Option

Consistent with Section 503 of the Michigan Zoning Enabling Act (MZEA), the PRO option creates a "floating district" with a conceptual plan attached to the rezoning of a parcel. As part of the PRO, the underlying zoning is proposed to be changed (in this case from I-1 to TC) and the applicant enters into a PRO agreement with the City, whereby the City and the applicant agree to tentative approval of a conceptual plan for development of the site. Following final approval of the PRO concept plan and PRO agreement, the applicant will submit for Preliminary and Final Site Plan approval under standard site plan review procedures. The PRO runs with the land, so future owners, successors, or assignees are bound by the terms of the agreement, absent modification by the City of Novi. If the development has not begun within two (2) years, the rezoning and PRO concept plan expires and the agreement becomes void.

RECOMMENDATION

The uses requested by the applicant appear to be supported by the Master Plan, which recommends this area for redevelopment to accommodate a mix of uses in a dense, walkable setting. The applicant's proposal for a mix of hotel, restaurant and/or retail uses could serve the needs of visitors to the existing nearby convention center and hospital. The revised submittal provides some additional details, as requested by staff in the previous PRO Concept Plan reviews. **The PRO Concept plan is conditionally recommended for approval to move forward at this time.** The Planning Commission and City Council will need to make a determination on whether the applicant has provided sufficient "benefits to the public" to meet the requirements of the PRO Ordinance. **Prior to the public hearing before the Planning Commission, the applicant should update the shared parking study to adjust for the larger size of the commercial building to show the proposed parking is sufficient for the uses proposed, as well as update the open space calculation for the site as described on page 5-6 below.**

COMPARISON OF ZONING DISTRICTS

The following table provides a comparison of the current (I-1) and proposed (TC) zoning classifications. The applicant is requesting a change of zoning from Light Industrial to Town Center. The types of uses allowed in these districts have some overlap, but the TC district has uses such as

retail business and restaurant uses, hotels, banks, instructional centers and residential dwellings that are not permitted in the I-1 District. The Light Industrial district allows many uses that would not be appropriate adjacent areas that include residential uses. The proposed use could be somewhat higher in intensity than the existing zoning.

	I-1 Zoning (Existing)	TC Zoning (Proposed)
Principal Permitted Uses	See attached copy of Section 3.1.18.B	See attached copy of Section 3.1.25.B
Special Land Uses	See attached copy of Section 3.1.18.C	See attached copy of Section 3.1.25.C
Minimum Lot Size	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space requirements as set forth in this Ordinance.	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space requirements as set forth in this Ordinance.
Maximum Lot Coverage		
Building Height	40 feet	65 feet or 5 stories
Building Setbacks	Front: 40 feet Side: 20 feet Rear: 20 feet	Front: 50 feet Side: 50 feet Rear: 50 feet
Gross Open Space	Not Applicable	15% (permanently landscaped and pedestrian plaza areas accessible to the public)
Minimum Square Footage	Not Applicable	Not Applicable

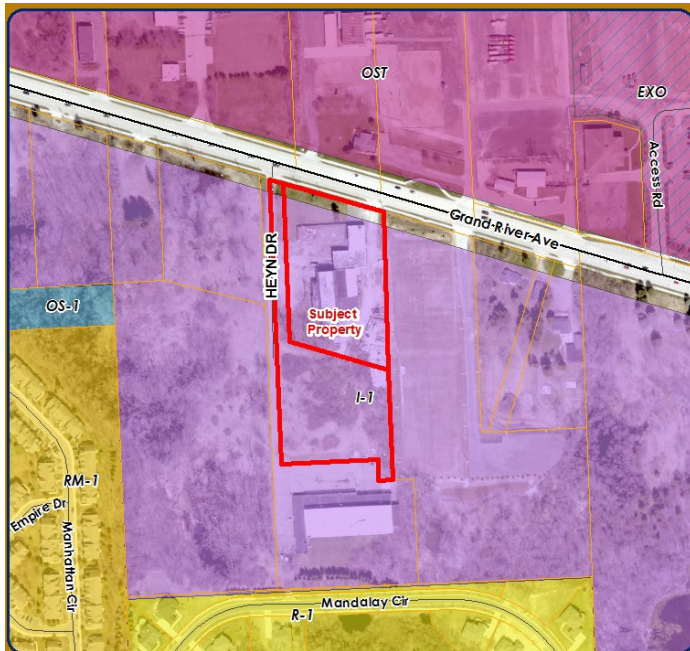
COMPATIBILITY WITH SURROUNDING LAND USE

The surrounding land uses are shown in the below chart. The compatibility of the proposed rezoning with the zoning and uses on the adjacent properties should be considered by the Planning Commission in making the recommendation to City Council on the rezoning request. The following table summarizes the zoning and current land uses for the subject property and surrounding properties.

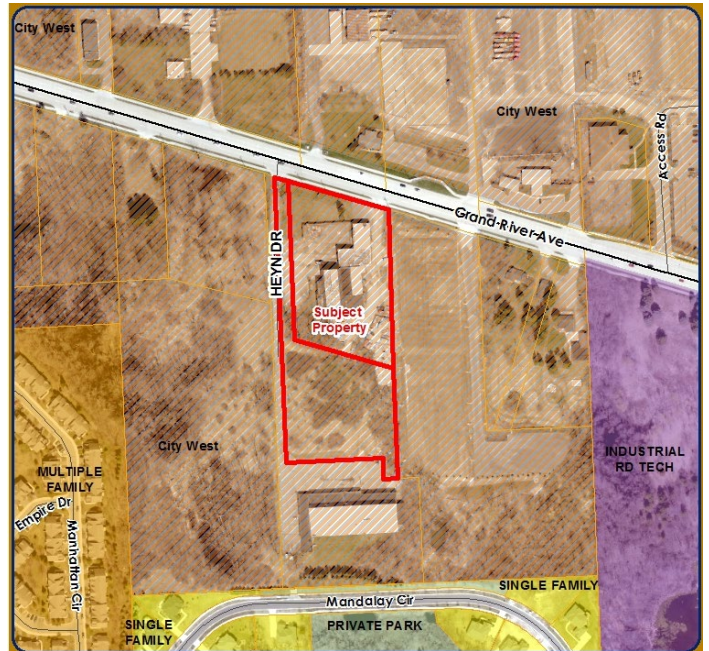
	Existing Zoning	Existing Land Use	Master Plan Land Use Designation
Subject Property	I-1 Light Industrial	Vacant lot, Light Industrial uses	City West District
Eastern Parcels	I-1 Light Industrial	Recreational fields	City West District
Western Parcels	I-1 Light Industrial	Vacant	City West District
Northern Parcels	OST Office Service Technology	Auction house, trucking company	City West District

Southern Parcels	I-1 Light Industrial	Light industrial uses	City West District
------------------	----------------------	-----------------------	--------------------

Zoning Map



Future Land Use Map



The subject parcels are currently zoned I-1 (Light Industrial). One of the parcels is currently vacant, the other has an older industrial building with an upholstery shop and a sign business.

North of the subject property across Grand River Avenue is a commercial business that appears to be an auction house with storage and trucks, with a trucking company just to the west. These parcels are zoned OST - Office Service Technology.

The property to the **south** is developed with an industrial building and zoned I-1 Light Industrial.

The property to the **west** of the subject properties is vacant and zoned I-1 Light Industrial.

The property to the **east** of the subject properties is leased by the City's Parks and Recreation Department for soccer fields and owned by Blair Bowman, owner of the Suburban Collection Showplace. It is zoned I-1 Light Industrial.

The applicant's rezoning narrative incorrectly lists garbage incineration, dry cleaning plants and junk yards as possible uses in the I-1 district. These are uses only permitted in the I-2 General Industrial District. More typical permitted uses would include professional and medical offices, warehousing, manufacturing, research & development, and industrial sales & service establishments. (See excerpts from Zoning Ordinance in attachments.)

The future uses for the surrounding properties could change, as they fall within the City West District designation on the Future Land Use Map, which is called out as a redevelopment site in the Master Plan. The City West District is envisioned to be a mixed-use district. As stated in the 2016 Master Plan: "This area offers the potential for the creation of a prominent new district combining entertainment, convention, commercial, office, and residential uses in a cohesive, high-density, walkable pattern."

Development standards for the new City West district are being written by City staff and are anticipated go through the approval process within the next year.

Impacts to the surrounding properties as a result of the proposal would be expected as part of the construction of any development on the subject property and could include construction noise and additional traffic. There are no residential uses immediately adjacent to the subject parcels, which minimizes the level of construction impact. The vacant properties and industrial business uses surrounding the parcel reflect the historical use of the area, while the proposed development represents what future redevelopment of the area could bring under the proposed City West zoning district currently being created.

DEVELOPMENT POTENTIAL AND DENSITY PROPOSED

The site plan proposes a 117-room, 4-story hotel with a restaurant incorporated into the building. Also proposed is a 16,413 square foot retail/restaurant building located on the north side of the property fronting on Grand River Avenue.

The proposed uses are more consistent with the Master Plan vision for the City West area than the uses permitted under the current I-1 zoning. Staff analyzed the impacts of the proposed rezoning in the following sections.

The applicant submitted a narrative that assesses and supports their request for change of use. **However, staff suggests the applicant consider the comments made under the review concerns section below and address the concerns in an updated narrative to be submitted prior to the Planning Commission public hearing that addresses issues raise in all the review letters.**

REVIEW CONCERNS

1. Rezoning Sign Location Plan: Per the Site Plan and Development Manual, the applicant is required to submit a sign location plot plan to be approved by staff. “The sign must be located along the property line of the right-of-way at the midpoint of the property width.” The sign must be posted no later than 15 days prior to the scheduled public hearing before the Planning Commission. **The sign location map was provided in the original submittal, and a mock-up of the proposed sign has now been provided – both are now approved. The sign should be posted no later than 15 days before the Planning Commission public hearing, or no later than September 7th if the project will be on the September 22nd agenda.**
2. Heyn Drive: Primary access to the site is proposed with two curb cuts on Grand River Avenue. One of those is on the existing private road known as Heyn Drive. The drive falls mostly off-site to the west, and the plans note a 30’ Private Easement for Ingress/Egress and Utilities. The width meets the requirement of 28-feet for a private road. **The applicant has provided the off-site Easement for review that information for any potential concerns. The applicant has also provided letters from the property owners with a legal interest in Heyn Drive stating they are aware of and do not object to the applicant’s plans to make improvements and increase traffic on this private road. *This comment has been addressed.***
3. Design and Layout Concerns: The proposed 4-story hotel is consistent with the height of buildings envisioned for the City West area and is under the maximum height allowed in the TC District. However, the following elements required by the Ordinance and Master Plan are missing from the proposed layout or require clarification:
 - a. Open Space: The use standards for hotels within the City requires a minimum of 30 square feet of “usable open space” per each room within the hotel. The usable open space required for the hotel can count toward meeting the overall requirement of the TC district discussed below. The applicant has provided an open

space calculation sheet to show how the required conditions are met. The amount of usable open space provided around the hotel is 4,175 square feet, consisting of patio and courtyard areas, and some treed lawn areas. **The lawn areas shall at minimum include benches to be able to be considered “usable.”**

The TC District requirement for 15% open space is more broadly defined as “permanently landscaped open spaces and pedestrian plaza areas accessible to the public.” The total site area would be subject to the requirement, meaning 36,460 square feet of open space is required. With 4,175 square feet provided around the hotel, the remaining 32,285 square feet can include landscaped areas around the commercial building, the plaza area (including pavement), landscaping areas around the storm water basins (but not to include open water area), and landscaped setback areas on the east and west sides of the property. **The applicant should rework the open space calculations for the entire property using this guidance, not just the commercial portion, to determine whether the requirement is met.**

- b. Loading areas: Within the TC zoning district, loading space is required to be provided in the rear yard in the ratio of 10 square feet per front foot of building. The hotel, at 74 front feet, should have a loading area of 740 square feet. There is a loading area indicated in the rear yard behind the hotel (74 ft by 10 ft) which meets the requirement. The loading zone is located within the drive aisle, however the area has been widened to provide a bypass of 20 feet when the loading zone is occupied (as required for a fire lane).

The commercial building, with 186 front feet, would require a loading area of 1,860 square feet. There is a loading area proposed on the southwestern side of the building, area is dimensioned as 60 feet by 16 feet, or 960 square feet.

As the commercial loading area does not meet the ordinance requirements, the applicant should request a deviation and provide sufficient justification, such as the size of the largest delivery vehicle expected. Staff supports the deviation if the loading area shown is sufficient for the delivery vehicles expected without impeding traffic.

- c. Accessory Structures: The PRO Concept Plan notes “possible” locations of transformers and generators. A recent Ordinance amendment allows transformer units and other utility boxes under 4 feet in height to be located in the rear or side yard. Units over 4 feet in height shall be located in the rear yard. **The applicant does not anticipate a variance will be needed for this item.**
- d. Overhead Utilities: Overhead electrical lines are shown on the plans running through the drive aisle and parking lot. **The applicant indicates any conflicting overhead utilities will be moved according to the utility guidelines.**
- e. Sidewalk on Private Drive: “Direct pedestrian access shall be provided between all buildings and uses within a development and between a development and adjacent areas.” *The revised plan shows sidewalks along Grand River, and around the retail and hotel buildings. Sidewalk is now also shown along Heyn Drive as well as from the retail building to the hotel. The plan shows a sidewalk to be constructed in Phase 1 that would connect the commercial building area with the parcel to the west. In Phase 2, a sidewalk connection would be added to the east This comment has been addressed.*

2. Parking: The current ordinance requires 185 parking spaces to accommodate the proposed uses on the site. The applicant currently proposes 153 spaces. A Shared Parking Study was previously submitted that showed the mix of uses proposed on the site would require 126 spaces total – **however the parking study was done based on a smaller proposed commercial building (11,000 sf GFA). As the applicant has since increased the size of the building to 16,413 square feet, the study should be updated to reflect this change in order to determine whether there are still enough parking spaces provided. The number of employees for the tenant spaces and accompanying restaurant occupancy and/or retail customers should be updated to reflect anticipated parking needs.** Depending on the results of the updated parking study, Staff may recommend the Planning Commission permit a reduction in the number of parking spaces required (as permitted under Zoning Ordinance Section 5.2.), and the number of spaces proposed be included as a condition in the PRO Agreement.
3. Sustainability: The Master Plan specifically calls out the opportunity to consider innovative sustainable development strategies in establishing a new district. “Landscaping with native plants, incorporation of alternative energy systems such as solar collectors or geothermal heat pumps into building designs, accommodations for electric vehicles, bicycle facilities, and ultimately, integration with mass transit are all steps that can be taken to build a district that adheres in the long term to basic principles of environmental sustainability.” The applicant has proposed eight electric vehicle charging stations that will be available to the public. The current landscape plan shows 56% of the plants proposed will be native species. The applicant also states they will utilize solar power where possible for aesthetic lighting and signage proposed. The building will also use high efficiency HVAC, lighting, auto-light turnoffs in guest rooms, high efficiency electric through wall units for each room, environmentally friendly interior finishes and materials including wall coverings and fabrics. The building envelope will conform to current energy codes. **Beyond the EV charging stations and native plantings, there are no details provided on the plans to confirm or evaluate the sustainability strategies proposed.**
4. Phasing: The applicant has provided more details of which elements are in Phase 1 and Phase 2. The hotel with the restaurant is Phase 1 of the project, along with both stormwater detention basins, improvements to the existing access drives off Grand River Avenue, and 142 parking spaces. Two planting areas along Grand River along with large decorative address numbers are proposed as part of Phase 1.

The 16,413 square foot commercial building on the north end of the property is considered Phase 2 of the project, along with 11 parking spaces and additional pedestrian plaza space adjacent to the north side of the building.

5. Ownership: The site plan appears to indicate that the site will be one parcel under single ownership. **The applicant has verified this to be the case.**
6. Ingress-Egress Easement: Access to the site is proposed with two curb cuts on Grand River Avenue. One of those is through the existing private road known as Heyn Drive. The drive falls mostly off-site to the west, and the plans note a 30' Private Easement for Ingress/Egress and Utilities. The applicant has provided additional information regarding the off-site Easement and letters from the affected landowners that share interest in the easement. **The off-site road improvements to Heyn Drive will require a temporary construction easement.**
 - a. **If Heyn Drive were to become a public street in the future (which is depicted in the Master Plan), additional Right-of-way would be needed. The applicant may want to consider dedicating the ROW as a public benefit of the project. The applicant has declined to offer ROW.**

MASTER PLAN FOR LAND USE

The Future Land Use Map of the 2016 City of Novi Master Plan for Land Use identifies this property and parcels to the north as City West, which is called out as a Redevelopment Site. “This area offers the potential for the creation of a prominent new district combining entertainment, convention, office, and residential uses in a cohesive, high-density walkable pattern.... The district is envisioned as a distinct neighborhood as well as a complement to major nearby uses such as the Suburban Collection Showplace and the hospital.”

Adopted by the Planning Commission in July of 2017, the Master Plan calls for “the development of design standards or a form-based code to establish district-wide standards for building massing and location, streetscape, and public spaces.” Staff is working on creating this new zoning district; however it still needs to go through the process for adoption. The applicant desires to move forward, which necessitates adapting an existing zoning district to the site through the use of the Planned Rezoning Overlay option.

The 2016 Master Plan also contains a chapter on the Grand River Corridor, which represents an important thoroughfare for the City and the region. As stated in the document, “opportunities exist to enhance the corridor’s function and its appearance, resulting in a roadway that creates a community identity for the City of Novi.” Enhancement concepts discussed in this area of the corridor include increasing the number of street trees and landscaping to help create a buffer for pedestrians and strengthening the identity of the corridor with a mix of uses and unique signage.

The proposal would partly follow objectives listed in the Master Plan for Land Use including the following. If additional information is provided per staff’s comments, the proposal may have the ability to meet the full intent of the objectives:

1. Infrastructure

- a. Objective: Provide and maintain adequate water and sewer service for the City’s needs.
- b. Objective: Provide and maintain adequate transportation facilities for the City’s needs.
Address vehicular and non-motorized transportation facilities.

Staff Comment: The Rezoning Traffic Study provided by the applicant shows the proposed hotel and restaurant uses are not expected to generate more trips than other permitted uses within the existing I-1 zoning district. The Proposed uses would also generate fewer trips, especially during peak hours, than other possible uses within the TC district, such as shopping centers. **The current TIS provided by the applicant assumes a shopping center use in the commercial building. As noted in the Traffic Review, the RTS previously provided should be updated with the current mix of uses so that the assumptions are consistent between the documents.**

2. Community Identity

- a. Objective: City West/Grand River & Beck Road. Develop the City West/Grand River Avenue and Beck Road area in a manner that supports and complements neighboring areas.
- b. Objective: Maintain quality architecture and design throughout the City. Set high standards and promote good examples for use of public property through the City’s actions.
- c. Objective: Ensure compatibility between residential and non-residential developments.

Staff Comment: The previously completed Façade Review suggests that the proposed building materials meet the ordinance standards, but do not qualify as an enhancement of the project under the PRO Ordinance. The applicant only provided elevations for the hotel building, therefore the retail building would be expected to comply with ordinance standards at the time of Site Plan submittal. The proposed site does not abut a residential district and therefore no significant impacts are anticipated on nearby residential areas. The design of the streetscape and pedestrian plaza

near Grand River is an effort to create a sense of place and identity as envisioned in the Grand River Corridor study.

3. Environmental Stewardship

- a. Objective: Protect and maintain the City's woodlands, wetlands, water features, and open space.
- b. Objective: Increase recreational opportunities in the City.
- c. Objective: Encourage energy-efficient and environmentally sustainable development through raising awareness and standards that support best practices.

Staff Comment: The site would be redeveloped and would not result in new permanent impacts to natural features, which makes it a preferable site compared to a site that had never been developed. There are no regulated wetland or woodland areas present on the site. The applicant indicates they will provide 8 electric car charging space in the parking lot and utilize some solar lighting. **The applicant has increased the number of native species in their landscaping plantings to 56%.**

4. Economic Development

- d. Objective: City West/Grand River & Beck Road. Develop the City West/Grand River Avenue and Beck Road area in a manner that supports and complements neighboring areas.
- e. Objective: Retain and support the growth of existing businesses and attract new businesses to the City of Novi.
- f. Objective: Ensure compatibility between residential and non-residential developments.

Staff Comment: The development of a hotel and restaurant/retail uses on this site would complement the nearby hospital and Suburban Collection Showplace by providing visitors short-term lodging and dining options in close proximity to those facilities. Nearby residential uses would be buffered from the proposed uses by the existing industrial building to the south and vacant parcels to the west.

MAJOR CONDITIONS OF PLANNED REZONING OVERLAY AGREEMENT

The Planned Rezoning Overlay process involves a PRO concept plan and specific PRO conditions in conjunction with a rezoning request. The submittal requirements and the process are codified under the PRO ordinance (Section 7.13.2). Within the process, which is completely voluntary by the applicant, the applicant and City Council can agree on a series of conditions to be included as part of the approval.

The applicant is required to submit a conceptual plan and a list of terms that they are willing to include with the PRO agreement. The applicant has submitted a conceptual plan showing the general layout of the hotel and commercial buildings, parking lot, stormwater ponds, driveways and accessory structures. The applicant has provided a Community Impact Statement describing the potential impacts of the development. At this time, the applicant has identified some conditions to be included in the agreement if the current design moves forward, as listed below.

Staff comments are in bold italics.

1. The development shall generally conform to the PRO Concept Plan. ***This is a standard requirement of the PRO ordinance, and is not more limiting.***
2. Execution of any required easements. ***This is a requirement of any development, and is not more limiting.***
3. The permitted uses of the property will be for a 4-story full-service hotel with a restaurant, and an approximately 16,413 square foot building for retail and/or restaurant uses. ***The ordinance allows many more permitted uses in the TC district, therefore this condition would be more limiting;***

4. The provision of a minimum of 20% permanently landscaped and pedestrian plaza areas accessible to the public. **If the applicant were to significantly exceed the minimum of 15% open space, that may qualify as a greater amenity under the PRO ordinance. The applicant will need to recalculate the open space provided using the guidance discussed on page 6 of this review in order to determine if 15% is significantly exceeded.**
5. Electric vehicle charging stations, solar lighting, decorative pedestrian lighting, outdoor furniture, safety paths in accordance with the Town Center Study shall be provided. **The Town Center district requires all sites to incorporate development amenities (Section 3.27.1.L.) such as exterior lighting, outdoor furniture, and safety paths, so most of these amenities would be required with any development in the TC District. However, the electric vehicle charging stations are not specifically mentioned, and may be considered an enhancement.**

Additional Conditions Proposed by Staff:

6. The landscaped public plaza space proposed along Grand River, and a sidewalk connection through the parking area to the hotel, shall be constructed within Phase 1 of the development (before a Temporary Certificate of Occupancy will be granted).
7. Based on the Shared Parking analysis provided by the applicant, a total of 153 parking spaces will be provided on the site, including 8 electric vehicle charging stations. Approximately 142 parking spaces will be provided in Phase 1 of the project, with the remaining 11 spaces to be constructed with Phase 2. **This condition may need to be updated based on revisions to the Share Parking study.**
8. The maximum height of the proposed buildings shall not exceed 58 feet.
9. Signage shall comply with Chapter 28, Signs, of the City's Code of Ordinances, subject to Zoning Board of Appeals review and variance upon application at the time of individual site plan review. For consistency with the intent of the TC District regulations, no off-premises (billboard) signs shall be permitted on any portion of the Property.
10. Any storm water basins, drainage conveyance, and other facilities constituting the overall storm water management system serving the Property shall be designed and constructed by the Developer, and subject to approvals and inspection by the City, in accordance with all applicable City, County of Oakland, and State of Michigan ordinances, codes, regulations, and laws, except as otherwise specifically noted herein.

The PRO conditions must be in material respects, more strict or limiting than the regulations that would apply to the land under the proposed new zoning district. Some of the conditions listed above are more limiting in use and density than what would be allowed under the TC zoning district. They also require the developer to provide greater amenities than would be required by a typical commercial building, such as pedestrian paths and plazas. *Development and use of the property shall be subject to the more restrictive requirements shown or specified on the PRO Plan, and/or in the PRO Conditions imposed, and/or in other conditions and provisions set forth in the PRO Agreement.* **The applicant should continue to develop their list of conditions that they are seeking to include with the PRO agreement. The applicant's narrative includes a limited list of PRO conditions at this time.**

ORDINANCE DEVIATIONS

Section 7.13.2.D.i.c(2) permits deviations from the strict interpretation of the Zoning Ordinance within a PRO agreement. These deviations must be accompanied by a finding by City Council that "each Zoning Ordinance provision sought to be deviated would, if the deviation were not granted, prohibit an enhancement of the development that would be in the public interest, and that approving the deviation would be consistent with the Master Plan and compatible with the surrounding areas." Such deviations must be considered by City Council, who will make a finding

of whether to include those deviations in a proposed PRO agreement. The proposed PRO agreement would be considered by City Council after tentative approval of the proposed concept plan and rezoning.

The concept plan submitted with an application for a rezoning with a PRO is not required to contain the same level of detail as a preliminary site plan, however without those details some deviations cannot be identified and the applicant would be expected to comply with the ordinance for any conditions not included in the PRO Agreement. Staff has reviewed the concept plan in as much detail as possible to determine what deviations from the Zoning Ordinance are currently shown.

The applicant may choose to revise the concept plan to better comply with the standards of the Zoning Ordinance, or may proceed with the plan as submitted with the understanding that any requested deviations would have to be approved by City Council in a proposed PRO agreement. Deviations not approved would need to be brought into compliance in the Preliminary/Final Site Plan review process.

The following are deviations from the Zoning Ordinance and other applicable ordinances that will be required unless modifications are made to the proposed concept plan:

- a. Building setback (Section 3.1.25.D): A deviation to allow a reduction in the building setback for the commercial building along western property line (40 feet proposed, 50 feet required). **Supported by staff.**
- b. Parking (Section 5.2): A deviation to allow a reduction of the required parking based on the Share Parking study provided by the applicant (185 spaces required, 153 spaces proposed). **Staff support to be determined based on updates to Shared Parking Study to reflect current development program proposed.**
- c. Commercial Loading area (Section 5.4.2): A deviation to allow a smaller loading area for the commercial building (800 sf shown, 1,890 sf required). **May be supported by staff as the width and length would accommodate a medium-sized delivery vehicle (up to 50 ft length) without impeding traffic, if the applicant can demonstrate that the medium-sized delivery vehicle would be the maximum expected for the proposed uses.**
- d. Right Turn Taper (Code of Ordinances, Figure IX.10): The Traffic review indicates the expected number of peak-hour right turns into the site requires a right turn taper. The applicant must provide this taper in compliance with Figure IX.11 of the Code of Ordinances. **Not providing the taper would require a deviation. As Grand River is under the jurisdiction of Oakland County, if the RCOC determines a right turn taper is not required, staff would support the deviation.**
- e. Building Foundation Landscaping (Section 5.5.3.D): A landscape deviation to allow 1,156 square feet of required foundation landscaping for the Phase 2 building to be located away from the building. **This is supported by staff as it will still screen the building from Grand River Avenue.**

The applicant is asked to address the list of deviations above by revising the Concept Plan to remove the need for the deviations, and/or provide a list of the deviations requested. The applicant is asked to be specific about the deviations requested in a response letter and specifically explain why if each deviation “were not granted, [it would] prohibit an enhancement of the development that would be in the public interest, and that approving the deviation would be consistent with the Master Plan and compatible with the surrounding areas.”

Staff Comment: Refer to other review letters for more details on additional information being requested. Further deviations may be identified once more clarification is provided.

APPLICANT BURDEN UNDER PRO ORDINANCE

The Planned Rezoning Overlay ordinance requires the applicant to demonstrate that certain requirements and standards are met. The applicant should be prepared to discuss these items, especially in number 1 below, where the ordinance suggests that the enhancement under the PRO request would be unlikely to be achieved or would not be assured without utilizing the Planned Rezoning Overlay. Section 7.13.2.D.ii states the following:

1. *(Sec. 7.13.2.D.ii.a) Approval of the application shall accomplish, among other things, and as determined in the discretion of the City Council, the integration of the proposed land development project with the characteristics of the project area, and result in an enhancement of the project area as compared to the existing zoning, and such enhancement would be unlikely to be achieved or would not be assured in the absence of the use of a Planned Rezoning Overlay.*
2. *(Sec. 7.13.2.D.ii.b) Sufficient conditions shall be included on and in the PRO Plan and PRO Agreement on the basis of which the City Council concludes, in its discretion, that, as compared to the existing zoning and considering the site specific land use proposed by the applicant, it would be in the public interest to grant the Rezoning with Planned Rezoning Overlay; provided, in determining whether approval of a proposed application would be in the public interest, the benefits which would reasonably be expected to accrue from the proposal shall be balanced against, and be found to clearly outweigh the reasonably foreseeable detriments thereof, taking into consideration reasonably accepted planning, engineering, environmental and other principles, as presented to the City Council, following recommendation by the Planning Commission, and also taking into consideration the special knowledge and understanding of the City by the City Council and Planning Commission.*

IDENTIFYING BENEFITS TO PUBLIC RESULTING FROM THE REZONING AND THE PROPOSED DEVIATIONS

Section 7.13.2.D.ii states that the City Council must determine that the proposed PRO rezoning would be in the public interest and that the benefits to the public of the proposed PRO rezoning would clearly outweigh the detriments. The following benefits are suggested as resulting from the development proposal:

The following are key benefits as stated in the applicant's narrative, **with Staff comments in Bold:**

1. *Fulfilling the Master Plan's Redevelopment Strategy:* Meeting the intent of the City West planning area. **Staff acknowledges that the proposed development aims to begin to fulfill the redevelopment vision laid out in the Master Plan. The Master Plan talks about a mix of uses in the area but does not specifically mention hotel uses. There are existing commercial uses in the area, but they are scattered and do not result in a cohesive development that ties the uses together and expands the commercial options available. The revised Concept Plan shows the hotel building surrounded by parking but provides some elements of a walkable development with landscaped open spaces and pedestrian pathways and plazas, and the commercial building provides development near the street with parking located behind it. The proposed layout now includes connections to adjacent parcels that could be developed in the future. While this can be perceived as a positive feature of the development, it does not provide any measurable benefits to the public and is not what the ordinance contemplates when it talks about benefits to the public.**

2. Encourage New Development: This development will encourage additional new development in an area that is underutilized with older, small industrial/commercial buildings. **The applicant's position that additional investment in the area could drive others to develop could be valid, and the hotel and restaurant use would complement the convention center and hospital. While this can be perceived as a positive feature of the development, it does not provide any measurable benefits to the public and is not what the ordinance contemplates when it talks about benefits to the public.**
3. Mixed-use: This request will integrate retail, restaurant and hotel uses on a single site, better meeting the intent of the Town Center District. **The hotel, restaurant and retail uses would better serve the nearby convention center and hospital compared to uses that could be developed in the I-1 District. While this can be perceived as a positive outcome of the development, it does not provide any measurable benefits to the public and is not what the ordinance contemplates when it talks about benefits to the public.**
4. Tax Benefits: This project will provide a potentially enhanced tax benefit to the City over an industrial use. **While this can be perceived as a positive outcome of the development, it does not provide any measurable benefits to the public and is not what the ordinance contemplates when it talks about benefits to the public.**
5. Public Amenity: Creation of a pedestrian-oriented courtyard at the front of the retail building, along Grand River Avenue. **Such amenities are a requirement of the TC District, and also support the strategies recommended to enhance the Grand River corridor. The applicant has committed to providing the plaza in phase 1 of the development in the latest submittal.**
6. Shared Parking: Shared parking between the two buildings to minimize the impact of stormwater on the municipal system. **Staff notes that the applicant is proposing 153 parking spaces, which is significantly less than originally proposed. The shared parking analysis showed a demand for 126 parking spaces, while the ordinance requires 188 spaces based on the uses proposed. As discussed previously, the Shared Parking study was based on a previous development plan and shall be updated to account for the larger commercial building proposed.**
7. This project includes the use of electric car charging stations for a more environmentally friendly development, as well as various building features that enhance energy efficiency. **Staff agrees that these are not requirements of the ordinance. Eight charging stations are proposed, which is a public benefit, provided that the charging stations are open for use by the general public.**
8. The applicant indicates 36.5% landscaped and pedestrian plaza areas accessible to the public has been provided. **The calculations for open space need to be updated to determine whether the plan proposes additional landscaped open space beyond the 15% requirement for the total site area. If the applicant were to significantly exceed the requirement of 15% open space, that may qualify as a greater amenity under the PRO ordinance.**

9. *This project provides an appropriate transition between anticipated uses in the City West Plan for Grand River Avenue and the single-family residential uses to the south. **Staff notes that the site is not adjacent to the residential neighborhood to the south, and therefore will not have a measurable impact, positive or negative, on nearby residential uses. While this can be perceived as a positive outcome of the development, it does not provide any measurable benefits to the public and is not what the ordinance contemplates when it talks about benefits to the public.***

10. *The creation of temporary (construction) and permanent jobs in the City. **Alternative developments would also bring investment and create jobs and is not considered unique to this proposal. The number of jobs that could be created by an industrial use could exceed this development, as the hotel/restaurant use proposed in Phase 1 is only expected to result in 11 permanent jobs according to the applicant's projections. Therefore, this would not be considered a public benefit.***

11. *The applicant has added two "local sights signs" near the plaza are that are intended to direct pedestrians to nearby destinations such as the Suburban Showplace. **No additional details on the signage are provided, so it is not possible to determine whether the signs would meet the requirements of the City's sign ordinance. Directional signage to other businesses is not required and could be considered an enhancement of the development, albeit a minor benefit.***

This is a PRO in which the applicant seeks both a rezoning and a few deviations from requirements. The benefits to the City beyond the sort of "tax base" increase/property utilization that any viable development would result in are not clear at this point—particularly given that many of the conditions proposed are not more limiting or enhancements above the ordinance requirements.

SUMMARY OF OTHER REVIEWS:

- a. Engineering Review (dated 5-21-2020): Engineering recommends approval of the Concept plan and Concept Stormwater Management Plan, with additional items to be addressed during detailed site plan review.
- b. Landscape Review (dated 8-3-2021): There is one deviation from landscape standards which is supported by staff. Refer to review letter for more comments. **Landscape recommends approval.**
- c. Traffic Review (dated 5-4-2021): Additional comments to be addressed at the time of Preliminary Site Plan submittal. Traffic recommends approval of the PRO Concept Plan.
- d. Rezoning Traffic Study Review (dated 6-18-19): The applicant provided a Rezoning Traffic Impact Study, which was previously approved by AECOM.
- e. Traffic Impact Statement Review (dated 5-3-2021): The applicant provided a Traffic Impact Statement including a Shared Parking study, which was approved by AECOM.
- f. Facade Review (dated 6-29-2020): The proposed hotel elevations comply with facade ordinance standards; no Section 9 facade waiver is required. Facade recommends approval. The commercial building would be expected to meet facade ordinance standards since no elevations are provided at this time.
- g. Fire Review (dated 4-16-2021): Fire recommends conditional approval, with additional comments to be addressed in site plan approval process.

NEXT STEP: PLANNING COMMISSION MEETING

This PRO Concept Plan will be scheduled for public hearing before the Planning Commission on September 22, 2021. **Please submit the following no later than noon on September 9, 2021:**

1. Concept Plan submittal in PDF format (maximum of 10MB).
2. A response letter addressing ALL the comments from ALL the review letters and **a request for deviations and conditions to be included in the PRO Agreement.**
3. Updates to the Shared Parking Study as described in the Planning Review.
4. An updated Open Space plan as described in the Planning Review.
5. Updated PRO Narrative that describes the public benefits proposed.
6. A color rendering of the Site Plan (Received for commercial portion).

CITY COUNCIL

After the Planning Commission makes its recommendation, the PRO Concept Plan will be scheduled for consideration by the City Council. If the City Council grants tentative approval at that time, they will direct the City Attorney to draft a PRO Agreement describing the terms of the rezoning approval. Once the PRO Agreement has been drafted and approved by the applicant's attorney, it will return City Council for final approval.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.347.0484 or lbell@cityofnovi.org.



Lindsay Bell, AICP – Senior Planner

Attachments: Planning Review Chart
Section 3.1.18.B – I-1 Permitted Uses
Section 3.1.18.C – I-1 Special Land Uses
Section 3.1.25.B – TC Permitted Uses
Section 3.1.25.C – TC Special Land Uses



PLANNING REVIEW CHART

Review Date: August 16, 2021
Review Type: 4th Revised PRO Concept Plan
Project Name: JZ19-24 Holiday Inn Novi
Location: South of Grand River, East of Heyn Drive (46585 Grand River)
Plan Date: July 23, 2021
Prepared by: Lindsay Bell, Senior Planner
E-mail: lbell@cityofnovi.org **Phone:** 248.347.0484

Bold	To be addressed with the next submittal
<u>Underline</u>	To be addressed with site plan submittal
<u>Bold and Underline</u>	Deviations that require Planning Commission and/or City Council Approval
<i>Italics</i>	To be noted

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan <i>(adopted July 26, 2017)</i>	City West: mix of uses in a dense, walkable setting. Uses to include housing, retail, restaurants, entertainment and office uses.	Hotel, Restaurant and Retail uses	Yes?	<i>Hotel uses not specifically mentioned in the Master Plan recommendations, but it does mention uses complementary to nearby convention center and hospital</i>
Area Study	Grand River Corridor			
Zoning <i>(Effective January 8, 2015)</i>	I-1: Light Industrial District	TC- Town Center	No	<i>Rezoning with PRO application has been submitted. City West district is not yet adopted</i>
Uses Permitted <i>(Sec 3.1.25.B & C)</i>	Principal Permitted Uses	Hotels, Retail business & Restaurants (Sec. 4.27 & 4.78)	Yes	
Rezoning Document Requirements (SPDM link: Site Plan & Development Manual)				
Written Statement <i>(Site Development Manual)</i>	Potential development under the proposed zoning and current zoning	Narrative submitted	Yes	
Survey	Four copies of the engineering survey of the property to be rezoned	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Sign Location Plan (Page 23,SPDM)	Per requirements listed in SPDM, Page 23 Installed within 15 days prior to public hearing Located along all road frontages	Sign mock-up provided	Yes	The sign is approved. The location plan previously provided was approved.
Rezoning Traffic Impact Study (SPDM)	A Rezoning Traffic Impact Study as required by the City of Novi Site Plan and Development Manual. Refer to Chapter 5	Previously Provided	Yes	See Traffic review for comments
Community Impact Statement (Sec. 2.2)	- Over 30 acres for permitted non-residential projects - Over 10 acres in size for a special land use - All residential projects with more than 150 units - A mixed-use development, staff shall determine	Provided	Yes	
Required Conditions: Hotels, Motels and Transient Lodging (Sec. 4.28)				
Not abutting Residential district (Sec. 4.28.1)	In the B-2 district, hotels and motels are permitted when site does not abut a residential district		NA	TC district proposed – does not apply
Integral part of overall design (Sec. 4.28.4) (Sec. 3.1.23.B)	In the OST district & EXO overlay, hotels are a permitted use when designed to be an integral part of an overall design of the district development		NA	TC district proposed – does not apply
Height, bulk, density and area limitations (Sec 3.1.25.D)				
Frontage on a Public Street. (Sec. 5.12) Access to Major Thoroughfare (Sec. 5.13)	Frontage on a Public Street is required; Access to Major Thoroughfare	The site has frontage and access to Grand River Ave	Yes	Heyn Drive to the west of the site is classified as a private, non-residential collector. The applicant is party to an access easement over the drive, but does not control the property.
Minimum Zoning Lot Size for each Unit in Ac (Sec 3.6.2.D)	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or	5.58 acres	Yes	
Minimum Zoning Lot Size for each Unit: Width in Feet			NA	

Item	Required Code	Proposed	Meets Code	Comments
	usable open space			
Maximum % of Lot Area Covered (By All Buildings)	No Maximum	Not provided	NA	
Building Height (Sec. 3.1.25.D)	65 feet or 5 stories, whichever is less	4 stories proposed	Yes	
Building Setbacks TC (Sec 3.1.25.D) Refer to Section 3.27.1.C				
Front north @ Grand River	50 ft.	50 ft.	Yes	Side yard building setback for commercial building would be a deviation
Rear (south)	50 ft.	145.9 ft.	Yes	
Side (west – exterior side)	50 ft.	44.6 ft.	No	
Side (east)	50 ft.	63.34 ft.	Yes	
Parking Setback TC (Sec 3.1.25.D) Refer to applicable notes in Sec 3.6.2				
Front north @ Grand River	20 ft.	~118 ft.	Yes	
Rear (south)	10 ft.	~140 ft.	Yes	
Side (west – exterior side)	20 ft.	20 ft.	Yes	
Side (east)	20 ft.	24 ft.	Yes	
Note To District Standards (Sec 3.6.2)				
Exterior Side Yard Abutting a Street (Sec 3.6.2.C)	All exterior side yards abutting a street shall be provided with a setback equal to front yard.	West side abuts Heyn Drive – front yard setback applies	Yes	
Off-Street Parking in Front Yard (Sec 3.6.2.E)	Off-street parking is allowed in front yard, as long as it's outside of the required setback (20')	Parking is not proposed within the 20' front setback	Yes	
Setbacks for Properties Abutting Residential (Sec 3.6.2.H&L)	If site abuts a residential zone, buildings must be set back at least 3' for each 1' of building height, but in no case can be less than 20' setback	Not abutting residential	NA	
Wetland/ Watercourse Setback (Sec 3.6.2.M)	A setback of 25 ft. from wetlands and from high watermark course shall be maintained	No wetlands or watercourses on site	NA	
Parking setback screening (Sec 3.6.2.P)	Required parking setback area shall be landscaped per Sec 5.5.3.	Landscaping plans provided	Yes	See Landscaping comments
Modification of parking setback requirements (Sec 3.6.2.Q)	The Planning Commission may modify parking setback requirements based on conditions listed in Sec 3.6.2.Q		NA	

Item	Required Code	Proposed	Meets Code	Comments
TC District Required Conditions (Sec 3.27)				
Surface parking lot screening (3.27.1 D)	Parking areas must be screened by either a 2.5' brick wall or a landscaped berm	Wall/fence screening now shown on Heyn Dr	Yes	
Pedestrian Orientation (3.27.1 E)	Proposed uses, through innovative architecture, shall create significant pedestrian orientation	Sidewalks provided from Grand River along Heyn Drive, around hotel and retail	Yes	
Open Space Area (Sec. 3.27.1 F)	15% (permanently landscaped areas and pedestrian plaza areas accessible to the public) Total area: 5.52 acres (240,451.2 sf) x 15% = 36,067 sf open space required	Open space plan provided shows Hotel: 4,461 sf of Usable Open Space Retail: 23,067 sf landscaped areas/pedestrian plazas	Yes?	Applicant has not provided open space calculation for total site area – hotel site must also have 15%, but the 4,461 sf of usable open space required for the hotel use may count toward overall open space requirement – it appears the site would meet the requirement if all “permanently landscaped areas and pedestrian plaza areas accessible to the public” were calculated – open water areas of SWM detention may not be included
Façade materials (Sec. 3.27.1 G)	All sides of the building and accessory buildings must have the same materials. Façade materials may deviate from brick or stone with PC approval	Hotel elevations provided – in full conformance	Yes	The hotel building is in full conformance with façade requirements; Elevations of the retail building have not been provided. They would be expected to conform to façade and TC requirements at the time of site plan submittal
Parking requirement reduction (Sec. 3.27.1 H)	PC may allow parking requirement reduction when parking areas serve dual functions	Requested	Yes?	Parking study provided does not reflect most recent submittal
Sidewalks required (Sec. 3.27.1 I)	Sidewalks required along Grand River (8') and Heyn Drive (5'); Direct pedestrian access shall be provided between all buildings and uses within a development and with adjacent uses	8' sidewalk along Grand River shown; 5' Sidewalk shown on Heyn Drive Internal sidewalks shown	Yes	
Development	All sites must incorporate	Safety paths	Yes?	Grand River Corridor Study

Item	Required Code	Proposed	Meets Code	Comments
amenities (Sec. 3.27.1 L)	amenities such as exterior lighting, outdoor furniture, safety paths in accordance with Town Center Study Area	indicated; outdoor furniture shown; examples of decorative screen walls and artistic address numbers		provides guidance for properties within the corridor. Applicant has proposed elements from this more recent study that appear to be more relevant to this location
Uses within structure (Sec. 3.27.1 M)	Residential use must be above commercial and office at all times. Levels with split uses not permitted	Only commercial uses proposed	NA	
Parking and Loading Requirements				
Number of Parking Spaces Hotel, Sit down restaurants (Sec.5.2.12.E)	Hotel: 0.85 spaces for each occupancy unit, plus 1 for each employee 117 rooms, 4 employees Restaurant, sit down: 1 for each 70 sf GFA or 1 for each 2 employees, plus 1 for each 2 allowed customers at max capacity 40 seats + 7 employees Hotel: (117 *0.85) +4 = 104 Restaurant: 3.5 + 20 = 24 Retail/Rest: 16,413 sf (13 employ and 100 seats) = 57 spaces Total Required Parking: 185 Spaces	Total Parking Proposed = 153 spaces	No	Applicant parking study provided was based on a smaller commercial building (11,000 sf GLA). The building size is now 49% bigger, which may significantly change the parking demand See Planning Review letter for further discussion
Parking Space Dimensions and Maneuvering Lanes (Sec. 5.3.2)	- 90° Parking: 9 ft. x 19 ft. - 24 ft. two way drives - 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks as long as detail indicates a 4" curb at these locations and along landscaping	24 ft. drives min proposed 9 ft. x 19 ft. spaces 9 ft. x 17 ft. spaces 7 ft. x 23 ft. parallel spaces?	Yes No?	<u>Dimension typical parallel spaces to verify conformance: 8 ft x 23 ft required</u> <u>Will be verified on PSP submittal</u>
Parking stall located adjacent to a parking lot entrance (public or private) (Sec. 5.3.13)	Shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer	Minimum distance is maintained	Yes	
End Islands (Sec. 5.3.12)	- End Islands with landscaping and raised curbs are required at the end of all parking bays that about traffic circulation aisles. - The end islands shall	Appears to generally comply	Yes?	See traffic review for further details

Item	Required Code	Proposed	Meets Code	Comments
	generally be at least 8 feet wide, have an outside radius of 15 feet, and be constructed 3' shorter than the adjacent parking stall as illustrated in the Zoning Ordinance			
Barrier Free Spaces <i>Barrier Free Code</i>	For 153 spaces, 6 barrier free required	9 barrier free shown	Yes	
Barrier Free Space Dimensions <i>Barrier Free Code</i>	- 8' wide with an 8' wide access aisle for van accessible spaces - 8' wide with a 5' wide access aisle for regular accessible spaces	3 barrier free spaces van-accessible shown	Yes	
Barrier Free Signs <i>Barrier Free Code</i>	One sign for each accessible parking space.	No signs shown	No	<u>To be provided at the time of PSP submittal</u>
Minimum number of Bicycle Parking <i>(Sec. 5.16.1)</i>	Hotels: 4 spaces minimum Retail: 5% of required parking 4 + 2 = 6 spaces required	Provided: 3 spaces near retail building, 4 spaces at hotel	Yes	
Bicycle Parking General requirements <i>(Sec. 5.16)</i>	- No farther than 120 ft. from the entrance being served - When 4 or more spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations - Spaces to be paved and the bike rack shall be inverted "U" design - Shall be accessible via 6 ft. paved sidewalk	Bike parking now near main entrance of hotel and on north side of commercial building	Yes	
Bicycle Parking Lot layout <i>(Sec 5.16.6)</i>	Parking space width: 6 ft. One tier width: 10 ft. Two tier width: 16 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft. single, 2 ½ ft. double	Not shown	No	<u>Provide bike parking layout at the time of PSP submittal</u>
Loading Spaces <i>(Sec. 5.4.2)</i>	Within TC zoning, loading space shall be provided in the rear yard (or in the interior side yard beyond the side yard setback for	Commercial building: 189 ff x 10 sf = 1,890 sf required Shown: 60x16 = 960	No	<u>Deviation required for the size of loading area Phase 2 building</u>

Item	Required Code	Proposed	Meets Code	Comments
	double frontage lots) in the ratio of 10 sf per front foot of building.	sf Hotel: 74 ff x 10sf = 740 sf required Shown behind hotel: 74x10 = 740 sf		
Loading Space Screening (Sec. 5.4.2 B)	Loading area must be screened from view from adjoining properties and from the street.	Screening of hotel loading area appears to be proposed; Commercial loading zone screened by landscaping and building	Yes	
Accessory Structures				
Dumpster (Sec 4.19.2.F)	<ul style="list-style-type: none"> - Located in rear yard - Attached to the building or no closer than 10 ft. from building if not attached - Not located in parking setback - If no setback, then it cannot be any closer than 10 ft. from property line. - Away from Barrier free Spaces 	Hotel Dumpster in rear yard, 125 ft from building, not near barrier free parking – outside of 20' parking setback on east Retail dumpster shown	Yes Yes	
Dumpster Enclosure (Sec. 21-145. (c)	<ul style="list-style-type: none"> - Screened from public view - A wall or fence 1 ft. higher than height of refuse bin - And no less than 5 ft. on three sides - Posts or bumpers to protect the screening - Hard surface pad - Screening Materials: Masonry, wood or evergreen shrubbery 	Appears to comply	Yes	<u>Will be verified at time of PSP submittal</u>
Roof top equipment and wall mounted utility equipment (Sec. 4.19.2.E.ii)	All roof top equipment must be screened and all wall mounted utility equipment must be enclosed and integrated into the design and color of the building	No rooftop equipment shown	Yes?	Show any rooftop equipment, if any, on façade elevations at time of PSP submittal
Roof top appurtenances screening	Roof top appurtenances shall be screened in accordance with applicable facade			Screen any rooftop equipment proposed

Item	Required Code	Proposed	Meets Code	Comments
	regulations, and shall not be visible from any street, road or adjacent property.			
Transformer/ Generator (Sec. 4.19.2.A)	Provide location of any proposed transformers/ generators etc.	Possible locations of transformers/ generator shown in interior side yard	Yes	Indicate size of accessory equipment – if under 4' in height may be located in side yard if properly screened; <u>Otherwise, request a deviation for location</u>
Sidewalks and Pathways				
ARTICLE XI. OFF-ROAD NON-MOTORIZED FACILITIES Sec. 11-256. Requirement. (c) & Sub. Ord. Sec. 4.05,	<ul style="list-style-type: none"> - In the case of new streets and roadways to be constructed as part of the project, a sidewalk shall be provided on both sides of the proposed street or roadway. - Sidewalks along arterials and collectors shall be 6 feet or 8 feet wide as designated by the "Bicycle and Pedestrian Plan," but not along industrial service streets per Subdivision Ordinance. - Whereas sidewalks along local streets and private roadways shall be five (5) feet wide. 	<p>NA</p> <p>8' Sidewalk along Grand River</p> <p>5' Sidewalk provided along Heyn Drive</p>	<p>Yes</p> <p>Yes</p>	
Pedestrian Connectivity	<ul style="list-style-type: none"> - Whether the traffic circulation features within the site and parking areas are designed to assure safety and convenience of both vehicular and pedestrian traffic both within the site and in relation to access streets - Building exits must be connected to sidewalk system or parking lot. 	Internal sidewalks shown connecting commercial and hotel buildings; connections also shown to adjacent properties	Yes	
Lighting and Photometric Plan (Sec. 5.7)				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	unnecessary transmission of light into the night sky			
Lighting Plan (Sec. 5.7.A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Provided	Yes	
Building Lighting (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be illuminated, illuminance levels of walls and the aiming points of any remote fixtures.	Not shown		<u>Appears lighting type "F" would be directed upward on the building? – at time of site plan submittal these must be shown that building overhang will prevent lighting of the sky</u>
Lighting Plan (Sec.5.7.2.A.ii)	Specifications for all proposed & existing lighting fixtures	Provided	Yes	Clearly label the fixture specifications to coordinate with the table on sheet 1 of 1.
	Photometric data	Provided	Yes	
	Fixture height	Provided	Yes	
	Mounting & design	Provided	Yes	
	Glare control devices (Also see Sec. 5.7.3.D)			
	Type & color rendition of lamps	LED	Yes	
	Hours of operation	Not shown		
Maximum Height (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (65 ft. for TC) (or 25 ft. where adjacent to residential districts or uses)	25 ft max shown	Yes	
Standard Notes (Sec. 5.7.3.B)	<ul style="list-style-type: none"> - Electrical service to light fixtures shall be placed underground - Flashing light shall not be permitted - Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation 	Not provided	<u>No</u>	<u>Provide standard notes on PSP submittal</u>
Security Lighting (Sec. 5.7.3.H) Lighting for security purposes shall be directed only onto the area to be secured.	<ul style="list-style-type: none"> - All fixtures shall be located, shielded, and aimed at the areas to be secured. - Fixtures mounted on the building and designed to illuminate the facade are preferred. 	Not provided	<u>No</u>	<u>Provide statement of security lighting proposed with PSP submittal</u>
Average Light Levels (Sec.5.7.3.E)	Average light level of the surface being lit to the	Parking area/pavement at	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	lowest light of the surface being lit shall not exceed 4:1	3.8:1		
Type of Lamps (Sec. 5.7.3.F)	Use of true color rendering lamps such as metal halide is preferred over high & low pressure sodium lamps	LED	Yes	
Min. Illumination (Sec. 5.7.3.k)	Parking areas: 0.2 min	0.4 fc min	Yes	Show photometric data up to entrances
	Loading/unloading areas: 0.4 min	1.1 fc min	Yes	
	Walkways: 0.2 min	1.0 fc min?	Yes	
	Building entrances, frequent use: 1.0 min	1.5 fc min	Yes	
	Building entrances, infrequent use: 0.2 min	Not shown	No	
Max. Illumination adjacent to Non-Residential (Sec. 5.7.3.K)	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle	0.6 fc max at property lines	Yes	
Cut off Angles (Sec. 5.7.3.L)	When adjacent to residential districts - All cut off angles of fixtures must be 90° - maximum illumination at the property line shall not exceed 0.5 foot candle	Not adj to residential	NA	
Building Code and Other Requirements				
Property Split	The proposed property split must be submitted to the Assessing Department for approval.	No split proposed, but the two parcels must be combined.		<u>Lot combination required prior to final site plan approval. Contact Assessing 248-347-0492</u>
Exterior Building Wall Façade Materials (Sec. 5.15)	Region 1 level façade	Elevation drawings submitted		See Façade Review comments from previous review
Design and Construction Standards Manual	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Building Code	Building exits must be connected to sidewalk system or parking lot.	Building exits appear to be connected	Yes	
General layout and dimension of proposed physical improvements	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in square feet), location of proposed parking and parking layout, streets and drives, and indicate square footage of pavement area (indicate public or private).	Provided	Yes	
Economic Impact Information	- Total cost of the proposed building & site improvements - Number of anticipated jobs created (during construction & after building is occupied, if known).	~\$20 million investment in PRO Narrative	Yes	
Development and Street Names	Development and street names must be approved by the Street Naming Committee before Preliminary Site Plan approval	Name approval for business not required	NA	<u>Contact Ben Peacock at 248-347-0475 to schedule a meeting with the Committee</u>
Development/ Business Sign	Signage if proposed requires a permit. Can be considered during site plan review process or independently.	None shown	NA	<u>For sign permit information contact Maureen Underhill 248-735-5602.</u>

NOTES:

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4, and 5 of the zoning ordinance for further details.
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

I-1 Light Industrial District

3.1.18



User Note: For uses listed in **bold blue**, refer to Article 4, or click on use, for use-specific standards

B. PRINCIPAL PERMITTED USES

- i. Professional office buildings, offices and office sales and service activities
- ii. **Accessory buildings, structures and uses** §4.19 customarily incident to the above permitted uses
- iii. Publicly owned and operated parks, parkways and outdoor recreational facilities
- iv. **Public or private health and fitness facilities and clubs** §4.34
- v. Medical offices, including laboratories and clinics

The following uses are subject to **Section 4.45:**

- vi. Research and development, technical training and design of pilot or experimental products
- vii. Data processing and computer centers
- viii. **Warehousing and wholesale establishments** §4.43
- ix. **Manufacturing** §4.43
- x. **Industrial office sales, service and industrial office related uses** §4.44
- xi. Trade or industrial schools
- xii. **Laboratories experimental, film or testing** §4.43
- xiii. Greenhouses
- xiv. Public utility buildings, telephone exchange buildings, electrical transformer stations and substations, and gas regulator stations, other than outside storage and service yards
- xv. Public or private indoor recreation facilities
- xvi. Private outdoor recreational facilities
- xvii. **Pet boarding facilities** §4.46
- xviii. **Veterinary hospitals** **or clinics** §4.31
- xix. **Motion picture, television, radio and photographic production facilities** §4.47
- xx. Other uses of a similar and no more objectionable character to the above uses
- xxi. **Accessory buildings, structures and uses** §4.19 customarily incident to any of the above permitted uses

C. SPECIAL LAND USES

The following uses shall be permitted where the proposed site does not abut a residentially zoned district:

- i. **Metal plating, buffing, polishing and molded rubber products** §4.48
- ii. **Uses which serve the limited needs of an industrial district (subject to Section 4.43)**, as follows:
 - a. Financial institutions, unions, union halls, and industrial trade schools or industrial clinics
 - b. Industrial tool and equipment sales, service, storage and distribution
 - c. **Eating and drinking establishments and motels** §4.49
- iii. **Automobile service establishment** §4.50
- iv. **Self-storage facilities** §4.51
- v. **Retail sales activities** §4.52
- vi. **Central dry cleaning plants or laundries** §4.53
- vii. **Railroad transfer, classification and storage yards** §4.43
- viii. **Tool, die, gauge and machine shops** §4.43
- ix. **Storage facilities for building materials, sand, gravel, stone, lumber, storage of contractor's equipment and supplies** §4.54
- x. **Municipal uses** §4.43
- xi. **Motion picture, television, radio and photographic production facilities** §4.47
- xii. **Outdoor space for parking of licensed rental motor vehicles** §4.90
- xiii. **Accessory buildings, structures and uses** customarily incident to any of the above permitted uses

1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement



1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement

A. INTENT

The TC, Town Center district is designed and intended to promote the development of a pedestrian accessible, commercial service district in which a variety of retail, commercial, office, civic and residential uses are permitted. Each use shall be complementary to the stated function and purpose of the district and shall not have adverse impact upon adjacent street capacity and safety, utilities, and other City services.

The TC Town Center district is further designed and intended to discourage the development of separate off-street parking facilities for each individual use, and to encourage the development of off-street parking facilities designed to accommodate the needs of several individual uses. Furthermore, it is recognized that uses which have as their principal function the sale or servicing of motor vehicles, such as automobile service establishments, car washes, or new and used motor vehicle sales or service establishments, and drive-in restaurants and restaurants with drive-through facilities, have a disruptive effect on the intended pedestrian orientation of the districts

i **User Note:** For uses listed in **bold blue**, refer to Article 4, or click on use, for use-specific standards

B. PRINCIPAL PERMITTED USES

- i. **Retail businesses use** §4.78.3
- ii. Retail business service uses
- iii. **Dry cleaning establishments, or pick-up stations, dealing directly with the consumer** §4.24
- iv. Business establishments which perform services on the premises
- v. Professional services
- vi. Post office and similar governmental office buildings, serving persons living in the adjacent residential area
- vii. Off-street parking lots
- viii. Private clubs , fraternal organizations and lodge halls
- ix. **Places of worship** §4.10
- x. **Retail business** §4.27
- xi. **Service establishments of and office showroom or workshop nature** §4.27
- xii. **Restaurants (sit-down), banquet facilities or other places serving food or beverage** §4.27
- xiii. **Theaters, assembly halls, concert halls, museums or similar places of assembly** §4.27
- xiv. **Business schools and colleges or private schools operated for profit** §4.27
- xv. Offices and office buildings
- xvi. Municipal uses
- xvii. Indoor commercial recreation facilities
- xviii. Outdoor theaters, plazas, parks, public gathering places, including those along a river walk, and like public facilities

B. PRINCIPAL PERMITTED USES (continued)

- xix. Hotels
- xx. **Financial institutions** §4.81
- xxi. **Residential dwellings** §4.82
- xxii. **Day care centers** and **adult day care centers** §4.12.2
- xxiii. Instructional centers
- xxiv. Other uses similar to the above uses subject to conditions noted
- xxv. **Accessory structures and uses** §4.19 customarily incidental to the above permitted uses

C. SPECIAL LAND USES

The following uses shall be permitted by the City Council, following review and recommendation of the Planning Commission.

- i. **Open air business uses** §4.80.1
- ii. **Sale of produce and seasonal plant materials outdoors** §4.30
- iii. **Veterinary hospitals** or **clinics** §4.31
- iv. **Microbreweries** §4.35
- v. **Brewpubs** §4.35



ENGINEERING REVIEW



PLAN REVIEW CENTER REPORT

May 21, 2020

Engineering Review

Holiday Inn PRO
JZ19-0024

Applicant

Mike & Hana Shammami

Review Type

Revised PRO Concept Plan

Property Characteristics

- Site Location: South side of Grand River Avenue, between Beck Road and Taft Road
- Site Size: +/- 5.58 acres
- Plan Date: 04/22/2020
- Design Engineer: Powell Engineering & Associates, LLC

Project Summary

- Construction of a 4-story, 117 guest room hotel, a 14,384 square foot commercial building, and associated parking. Site access would be provided by entrances from Heyn Drive and Grand River Avenue.
- Water service would be provided by a looped extension from the existing water main along the south side of Grand River Avenue. Four on-site hydrants are proposed, and each building would be served by its own domestic lead and fire lead.
- Sanitary sewer service would be provided to the hotel by an extension from the 8-inch sanitary sewer along the south side of Grand River Avenue. Sanitary service would be provided to the commercial building by an existing lead to the existing sewer.
- Storm water is proposed to be collected by a storm sewer collection system and discharged to two on-site detention basins, with final discharge proposed to the existing Grand River Avenue right-of-way storm system.

Recommendation

The Concept Site Plan and Concept Storm Water Management Plan can be recommended for approval, with the items below to be addressed during the detailed design review.

Comments:

The limited details shown on the Concept Site Plan meet the general requirements of Chapter 11 of the Code of Ordinances. The Concept Storm Water Management Plan requires additional details to be provided during the time of Preliminary Site Plan submittal to meet the Storm Water Management Ordinance and the Engineering Design Manual.

Additional Comments (to be addressed with future submittals):

General

1. The topo/boundary survey sheet entitled "1" is missing from the set. Add sheet to set.
2. Provide a minimum of two ties to established section or quarter section corners. Only one is shown.
3. All work proposed on Heyn Drive will require proof of permission between private entities, due to the 30-foot wide private easement for ingress/egress and utilities.
4. The Non-domestic User Survey form shall be submitted to the City so it can be forwarded to Oakland County.
5. Show and label the locations of light poles on the utility plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.
6. The test hole information is noted on sheet S4, but formal soil borings prepared by a geotechnical engineer shall be provided for a preliminary review of the constructability of the proposed development. Borings identifying soil types and groundwater elevation should be provided at the time of Preliminary Site plan.
7. The area of the existing "Parcel #2" (22-16-300-051) shown in its legal description, 3.35 acres, does not match the area of 2.663 acres shown in the "Parcel Data" box nor City record showing 2.66 acres. Verify this parcel's legal description.

Utilities

8. Provide and show on the plans a 20-foot-wide water main easement for all proposed water main 8-inch and larger.
9. The City's records indicate that the existing water main along the south side of Grand River Avenue is 24 inches in diameter. Update the plans to reflect the 24-inch water main or provide evidence that it is 12 inches in diameter.
10. A water main stub and 20-foot-wide easement will be required for future connection to the property to the south.
11. Provide additional valves to limit water main pipe runs to a maximum of 800 feet between valves.
12. Clarify what is intended regarding sanitary service to the commercial building. It appears the existing 2-inch force main and associated grinder pump are to remain in service for the proposed building. Note that gravity sanitary service is highly encouraged due to maintenance of grinder pumps.

13. If the existing sanitary manhole is to be treated as the required monitoring manhole, provide a 20-foot-wide dedicated access easement to the manhole from the Grand River Avenue right-of-way (rather than a public sanitary sewer easement).
14. At the time of Final Site Plan submittal, provide a sanitary sewer basis of design for the development on the utility plan sheet.

Storm Sewer

15. Provide a four-foot deep sump and an oil/gas separator in the last storm structure prior to discharge to the south storm water basin. Treatment chambers have been noted for the other basin at the northwest corner of the site.
16. Provide a schedule listing the casting type and other relevant information for each proposed storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures.
17. Show and label all roof conductors, and show where they tie into the storm sewer.

Storm Water Management Plan

18. 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.
19. The Storm Water Ordinance requires runoff from the entire development to be detained with post-development discharge restricted to 0.15 cfs/acre. Provide calculations to substantiate this intended agricultural rate noted on sheet S4.
20. An emergency (secondary) overflow shall be provided for **each** detention basin at an elevation 6 inches above the 100-year storm storage elevation.
21. Noted that off-site easements were not obtainable for restricted outlet discharge off-site to the southeast.
22. Approval by the Road Commission for Oakland County (RCOC) will be required to discharge storm water to the existing Grand River Avenue storm sewer system.
23. Provide supporting calculations for the runoff coefficient determination.
24. Provide release rate calculations for the three design storm events (first flush, bank full, 100-year) for each detention basin.
25. One foot of freeboard shall be provided above the 100-year storm storage elevation in each detention basin. Label the contour intended for freeboard (appears to be 978 for south basin and 976 for northwest basin).
26. A 4-foot wide safety shelf is required one-foot below the permanent water surface elevation within each detention basin.
27. Provide an access easement for maintenance over the storm water detention system (i.e., both ponds) and the pretreatment structures. Also,

include an access easement to the detention areas from the public road right-of-way.

Paving & Grading

28. Revise the pavement cross sections on sheet S2 to conform to City's Design and Construction standards.
29. Detectable warning plates are required at all barrier free ramps, hazardous vehicular crossings and other areas where the sidewalk is flush with the adjacent drive or parking pavement. The barrier-free ramps shall comply with current MDOT specifications for ADA Sidewalk Ramps. Provide the latest version of the MDOT standard detail for detectable surfaces.
30. Verify the slopes along the ingress/egress routing to the building from the barrier-free stalls; show grades and/or percent slopes to verify. All barrier-free stalls shall comply with Michigan Barrier-Free regulations.
31. Provide labels on the Grading Plan stating that the proposed sidewalk within the road right-of-way shall match existing grades.
32. Curbing and walks adjacent to the end of 17-foot stalls (such as all the stalls proposed around the parking lot perimeter) shall be reduced to 4-inches high (rather than the standard 6-inch height to be provided adjacent to 19-foot stalls).

Off-Site Easements

33. If any off-site easements are needed, off-site agreements and easements must be executed prior to final approval of the plans. Drafts shall be submitted at the time of Preliminary Site Plan submittal.

The following must be submitted with the Preliminary Site Plan:

34. **A letter from either the applicant or the applicant's engineer must be submitted with the Stamping Set highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved.**

The following must be submitted with the Final Site Plan:

36. An itemized construction cost estimate must be submitted to the Community Development Department 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 estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving (square yardage), right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pre-treatment structure and restoration).
37. Draft copies of any off-site utility easements, a recent title search, and legal escrow funds must be submitted to the Community Development Department for review and approved by the Engineering Division and the City Attorney prior to being executed.

The following must be submitted with the Stamping Set:

38. A draft copy of the Storm Drainage Facility Maintenance Easement Agreement (SDFMEA), as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department. Once the agreement is approved by the City's Legal Counsel, this agreement will then be sent to City Council for approval/acceptance. The SDFMEA will then be recorded at the office of the Oakland County Register of Deeds. This document is available on our website.
39. A draft copy of the 20-foot wide easement for the water main to be constructed on-site must be submitted to the Community Development Department. This document is available on our website.
40. A draft copy of the 20-foot wide easement for the sanitary sewer and monitoring manhole to be constructed on-site must be submitted to the Community Development Department. This document is available on our website.
41. A copy of the 30-foot wide private easement for ingress/egress and utilities, along with proof of permission for all work proposed on Heyn Drive, must be submitted to the Community Development Department.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Victor Boron at (248) 735-5695 with any questions.



Victor Boron
Civil Engineer

cc: Lindsay Bell, Community Development
Ben Croy, PE, Engineering
Kate Richardson, Engineering

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT

August 3, 2021

Landscape Review

Holiday Inn PRO
JZ19-24 PRO Concept Plan

Review Type

Revised PRO Concept Plan (4) Landscape Review

Job

JZ19-0024

Property Characteristics

- Site Location: Grand River, east of Heyn Drive
- Site Acreage: 5.52 ac.
- Site Zoning: I-1 (Rezoning request to TC)
- Adjacent Zoning: East, West, South: I-1, North: OST
- Plan Date: 6/15/2021

Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Preliminary Site Plan submittal. Please follow guidelines of the Zoning Ordinance and Landscape Design Manual. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance.

Recommendation

Currently, this plan is **recommended for PRO Concept approval**. The plan has been improved significantly from a landscaping standpoint. The remaining deficiencies could be addressed on Preliminary and Final Site Plans.

LANDSCAPE DEVIATIONS REQUIRED BY PROPOSED LAYOUT:

Location of 1156sf of commercial building foundation landscaping is located away from the building. *This is supported by staff as it will still screen the building from Grand River Drive*

Ordinance Considerations

Existing Soils (Preliminary Site Plan checklist #10, #17)

Please provide somewhere in the plan set.

Existing and proposed overhead and underground utilities, including hydrants. (LDM 2.e.(4))

1. A utility plan is provided.
2. **Please show all proposed light poles on the Utility Plan and Landscape Plan to avoid conflicts.**
3. **Please increase the size of the parking lot screening wall detail.**

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. Only three trees will be preserved.
2. **Please provide more detailed information regarding the existing vegetation on the site, as described on the Landscape Chart.**

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

The project is not adjacent to any residentially-zoned property.

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

1. All greenbelt requirements (width, screening wall along parking and trees) are met.
2. No berm is required along either frontage when the site is rezoned to TC. The commercial building screens the parking lots from Grand River and the required Town Center screening wall is now proposed.
3. Based on the frontage and the concept plan, there are sufficient trees proposed along the Heyn Drive frontage and the Grand River frontage.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. All interior landscape area and trees are proposed.
2. All required parking lot perimeter trees are proposed.

Building Foundation Landscaping (Zoning Sec. 5.5.3.D.)

1. **The required hotel foundation landscaping area is proposed.**
2. **Please add landscaping along the north edge of the hotel's north patio to help screen it from the parking lot.**
3. The required commercial foundation landscaping area is also provided, but 1156sf of its area is located away from the building, requiring a landscape deviation. *This deviation is supported by staff as it will still screen the site from Grand River.*

Plant List (LDM 4)

1. 19 of 34 species used (56%) are native to Michigan.
2. The tree diversity meets the requirements of Landscape Design Manual Section 4.

Planting Notations and Details (LDM)

Provided

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 1.d.(3))

Please spread the south pond's shrubs around the pond more to spread the shrub coverage of the south basin more evenly.

Irrigation (LDM 1.a.(1)(e) and 2.s)

1. The proposed landscaping must be provided with sufficient water to become established and survive over the long term.
2. Please provide an irrigation plan or note how this will be accomplished if an irrigation plan is not provided on Final Site Plans.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or rmeader@cityofnovi.org.



Rick Meader – Landscape Architect

LANDSCAPE REVIEW SUMMARY CHART – Revised PRO Concept Plan (4)

Review Date: August 3, 2021
Project Name: Holiday Inn
Plan Date: 6/15/21
Prepared by: Rick Meader, Landscape Architect E-mail: rmeader@cityofnovi.org
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan.
Underlined items need to be addressed for Final Site Plan.

This review assumes that the rezoning to TC is approved. If it is not, there will be a number of landscape waivers required that are not required for the TC district.

LANDSCAPE DEVIATIONS REQUIRED BY PROPOSED LAYOUT:

Location of 1156sf of commercial building foundation landscaping is located away from the building. *This is supported by staff as it will still screen the building from Grand River Drive*

Item	Required	Proposed	Meets Code	Comments
Landscape Plan Requirements (LDM (2))				
Landscape Plan <i>(Zoning Sec 5.5.2, LDM 2.e.)</i>	<ul style="list-style-type: none"> ▪ New commercial or residential developments ▪ Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less. ▪ 1"=20' minimum with proper North. Variations from this scale can be approved by LA ▪ Consistent with plans throughout set 	<ul style="list-style-type: none"> ▪ Overall Landscape Concept plan is 1" = 30' ▪ Hotel 1" = 20' ▪ Commercial Building conceptual detail is 1"=20' 	Yes	
Project Information <i>(LDM 2.d.)</i>	Name and Address	Location map is located on L-1	Yes	
Owner/Developer Contact Information <i>(LDM 2.a.)</i>	Name, address and telephone number of the owner and developer or association	Address and business name on Landscape Plan Title Block	Yes	
Landscape Architect contact information <i>(LDM 2.b.)</i>	Name, Address and telephone number of RLA	Vert Verde Landscape Architecture created the landscape concept plan	Yes	
Sealed by LA. <i>(LDM 2.g.)</i>	Requires original signature	Yes		<u>A live signature is required on the stamping sets.</u>

Item	Required	Proposed	Meets Code	Comments
Miss Dig Note (800) 482-7171 (LDM.3.a.(8))	Show on all plan sheets	Yes	Yes	
Zoning (LDM 2.f.)	Include all adjacent zoning	<u>Provided on L-1</u> Site: I-1 Proposed: TC with PRO East, West, South: I-1 North: Grand River, OST South: R-4	Yes	
Survey information (LDM 2.c.)	<ul style="list-style-type: none"> ▪ Legal description or boundary line survey ▪ Existing topography 	Boundary/Topo Survey on Diffin-Umlor Sheet 1	Yes	
Existing plant material Existing woodlands or wetlands (LDM 2.e.(2))	<ul style="list-style-type: none"> ▪ Show location type and size. Label to be saved or removed. ▪ Plan shall state if none exists. 	<ul style="list-style-type: none"> ▪ Diffin-Umlor sheet 1 shows existing trees ▪ No tree chart is provided ▪ None of the site is on the regulated woodland map but some wooded areas appear to exist on the southern parcel that aren't included in the tree survey or described in any way. 	No	<ol style="list-style-type: none"> 1. Please identify all trees 8" dbh or larger on a tree chart or characterize the masses of vegetation on the southern parcel if they are not trees 8" dbh or more (shrubs, invasive trees, etc.) 2. The description regarding Existing Site Plant Material Notes on L-1 should be on the existing conditions sheet with the tree chart. Please add callouts or other labels indicating which areas are being described. 3. Please add a Demolition Plan that clearly shows all trees and utilities to be removed. Please provide a tree chart for all trees with a diameter of 8" dbh or greater on the site and offsite within 50' of the edge of disturbance. 4. Please show on chart and plan view which

Item	Required	Proposed	Meets Code	Comments
				<p>trees will be removed.</p> <p>5. Provide replacement calculations and trees if required.</p> <p>6. Please hide all trees to be removed from the landscape plan.</p>
Soil types (LDM.2.r.)	<ul style="list-style-type: none"> ▪ As determined by Soils survey of Oakland county ▪ Show types, boundaries 	<ul style="list-style-type: none"> ▪ Not provided ▪ There is a reference to soils information being provided on the civil sheets, but it couldn't be found. 	No	<p>1. Soil information needs to be in set, not necessarily on Landscape Plan.</p> <p>2. If not provided on the landscape plan, please indicate the location of the soils data with a note on the landscape plan.</p>
Existing and proposed improvements (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Dimensioned site plan provided on Sheet S2	Yes/No	<p>1. All interior landscaped islands should be 10' wide and have at least 200sf greenspace per tree planted in it.</p> <p>2. Please dimension all Island widths at backs of curbs.</p>
Existing and proposed utilities (LDM 2.e.(4))	<ul style="list-style-type: none"> • Overhead and underground utilities, including hydrants • Trees should be at least 10 feet from hydrants, catch basins and manholes and 5 feet from underground lines. • Show all proposed light posts on landscape plan and utility plan to avoid conflicts. 	<ul style="list-style-type: none"> • Storm, water, sanitary are shown on S4, and on the landscape plans. • Trees appear to be appropriately spaced from utility lines and structures • Some light posts appear to be missing from the landscape plans. 	<ul style="list-style-type: none"> • Yes • No 	<p>Please include all proposed lighting on landscape plan and resolve any tree/light pole conflicts (there appear to be some light posts missing, including one that may be conflicting with a fire hydrant).</p>
Proposed grading. 2' contour minimum (LDM 2.e.(1))	Provide proposed contours at 2' interval	<ul style="list-style-type: none"> ▪ Proposed spot elevations and contours on S3 ▪ Proposed detention basin contours on landscape plans 	Yes	
Snow deposit (LDM.2.q.)	Show snow deposit areas on plan	Yes	Yes	
LANDSCAPING REQUIREMENTS				

Item	Required	Proposed	Meets Code	Comments
Berms, Walls and ROW Planting Requirements				
Berms				
<ul style="list-style-type: none"> All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours Berm should be located on lot line except in conflict with utilities. Berms should be constructed of loam with 6" top layer of topsoil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements (Zoning Sec 5.5.A)	The site is not adjacent to residential so no buffering berm is required.	No berm is proposed.	Yes	
Planting requirements (LDM 1.a.)	LDM Novi Street Tree List	NA		
Walls (LDM 2.k & Zoning Sec 5.5.3.vi)				
Material, height and type of construction footing	Freestanding walls should have brick or stone exterior with masonry or concrete interior	The required screening wall/fence combination for TC district is now proposed	Yes/No	<ol style="list-style-type: none"> The city standard wall/fence detail is included, but is much too small to be useful. Please enlarge it to 11"x17" so it can be easily read and used.
Walls greater than 3 ½ ft. should be designed and sealed by an Engineer		None		
ROW Landscape Screening Requirements (Sec 5.5.3.B. ii) and (LDM 1.b)				
Greenbelt width (2)(3) (5)	<u>TC Zoning:</u> <ul style="list-style-type: none"> Adj to pkg: 20 feet Not adj to pkg: 0 feet 	<ul style="list-style-type: none"> Grand River: 65 feet to commercial building Heyn Drive: 20 feet to parking lot 	<ul style="list-style-type: none"> Yes Yes 	
Berm requirements (Zoning Sec 5.5.3.A.(5))				
Min. berm crest width	<ul style="list-style-type: none"> No berm is required in TC district Surface parking lots shall be screened from all public rights-of-way and internal roads by either: <ol style="list-style-type: none"> a two and one-half (2.5) foot: ornamental brick-on-brick wall, or a landscaped berm 	<ul style="list-style-type: none"> Standard city wall is proposed along Heyn Drive frontage The commercial building will screen the parking lot from Grand River 	<ul style="list-style-type: none"> Yes Yes 	
Minimum berm height	Not required in TC	None	Yes	

Item	Required	Proposed	Meets Code	Comments
(9)	district			
3' wall	<ul style="list-style-type: none"> ▪ No wall is required when greenbelt is not adjacent to parking ▪ A 3 ft tall brick wall or wall/decorative fence combination is required in Town Center districts 	Standard city decorative wall/fence is proposed	Yes	
Canopy deciduous or large evergreen trees Notes (1) (10)	<p>TC District</p> <ul style="list-style-type: none"> ▪ In the TC Districts, only the large tree OR subcanopy tree requirement must be met, but not both ▪ Adjacent to pkg: 1 tree per 25lf frontage (net of access drives) ▪ Not adjacent to pkg: 1 tree per 30 lf frontage (net of access drives) <p>Grand River Frontage:</p> <ul style="list-style-type: none"> ▪ Not adj to pkg (327-28-10)lf = 289 lf/30 = 10 trees <p>Heyn Drive Frontage:</p> <ul style="list-style-type: none"> ▪ Adj to pkg: ▪ (508-24)lf/25 = 19 trees ▪ Not adj to pkg: ▪ (160+130)/30 = 10 trees 	<p>Grand River: 0 trees</p> <p>Heyn Drive: 29 trees (13 of which are parking lot perimeter trees that are legitimately double-counted as greenbelt trees)</p>	<p>Grand River: No</p> <p>Heyn Drive: Yes</p>	Between the Grand River subcanopy trees and the Heyn drive canopy trees provided, the greenbelt landscaping requirement for TC district landscaping are met.
Sub-canopy deciduous trees Notes (2)(10)	<p>TC District</p> <ul style="list-style-type: none"> ▪ In the TC District, only the large tree or subcanopy tree requirement must be met, but not both ▪ Adjacent to pkg: 1 tree per 15lf frontage (net of access drives) ▪ Not adjacent to pkg: 1 tree per 20 lf frontage (net of access drives) <p>Grand River Frontage:</p> <ul style="list-style-type: none"> ▪ Not adj to pkg (327-28-10)lf/20 = 14 trees <p>Heyn Drive Frontage:</p> <ul style="list-style-type: none"> ▪ Adj to pkg: ▪ (508-24)lf/15 = 32 trees ▪ Not adj to pkg: 	<p>Grand River: 14 trees</p> <p>Heyn Drive: 0 trees</p>	<p>Grand River: Yes</p> <p>Heyn Drive: No</p>	See above

Item	Required	Proposed	Meets Code	Comments
	<ul style="list-style-type: none"> (160+130)/20 = 15 trees 			
Canopy deciduous trees in area between sidewalk and curb <i>(Novi Street Tree List)</i>	No street trees are required in the TC district	None	Yes	
Cross-Section of Berms (LDM 2.j)				
Slope, height and width	<ul style="list-style-type: none"> Label contour lines Maximum 33% Constructed of loam 6" top layer of topsoil Either a berm or 2.5' wall is required to screen parking areas from roads 	No berms are proposed		
Type of Ground Cover		NA		
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	Water, sanitary and storm utility lines and structures are shown on the landscape plan and trees are spaced correctly.	Yes	
Parking Area Landscape Requirements LDM 1.c. & Calculations (LDM 2.o.)				
General requirements <i>(LDM 1.c)</i>	<ul style="list-style-type: none"> Clear sight distance within parking islands No evergreen trees 	No blocking plantings are proposed	Yes	
Name, type and number of ground cover <i>(LDM 1.c.(5))</i>	As proposed on planting islands	Lawn	Yes	
General (Zoning Sec 5.5.3.C.ii)				
Parking lot Islands <i>(a, b, i)</i>	<ul style="list-style-type: none"> A minimum of 200 SF to qualify Minimum 200 SF per tree planted in island 6" curbs Islands minimum width 10' BOC to BOC 	Islands are shown, but no width dimensions are provided	TBD	Please dimension the widths of the smaller landscape islands.
Curbs and Parking stall reduction <i>(c)</i>	Parking stall can be reduced to 17' and the curb to 4" adjacent to a sidewalk of minimum 7 ft.	Spaces are 17 and 19 feet long	Yes	
Contiguous space limit <i>(i)</i>	<ul style="list-style-type: none"> Maximum of 15 contiguous spaces All endcap islands should also be at least 200sf with 1 tree 	Maximum bay is 14 spaces	Yes	

Item	Required	Proposed	Meets Code	Comments
	planted in it.			
Plantings around Fire Hydrant (d)	No plantings with matured height greater than 12' within 10 ft. of fire hydrants of utility structures (manholes, catch basins)	All hydrants are indicated with no trees shown near them.	Yes	
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	All islands will have lawn or other living groundcovers.	Yes	
Clear Zones (LDM 2.3.(5))	<ul style="list-style-type: none"> 25 ft corner clearance required. Refer to Zoning Section 5.9 RCOC clearance for roads with RCOC jurisdiction 	<ul style="list-style-type: none"> The RCOC clear vision zones are provided for the Grand River Ave entrances. City of Novi clear vision zone is provided for the Heyn Drive entries. 	Yes	
Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, C, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use area up to 50,000 sf x 7.5%	<ul style="list-style-type: none"> A = x SF x 7.5% = A sf Hotel: 50000 * 7.5% = 3750sf Commercial: 2570 * 7.5% = 193sf 			
B = Total square footage of additional paved vehicular use areas over 50,000 SF) x 1 %	<ul style="list-style-type: none"> B = x SF x 1% = B sf Hotel: 27,575 * 1% = 276sf Commercial: 0 			
Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use area up to 50,000 sf x 5%	A = x SF x 5% = A sf	NA		
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5 %	B = (x SF – 50000) x 0.5%	NA		
All Categories				
C = A+B Total square footage of landscaped islands required	<ul style="list-style-type: none"> A + B = C SF Hotel: 3750+276=4026sf Commercial: 193sf 	<ul style="list-style-type: none"> Hotel: 6426sf Commercial: 861sf 	<ul style="list-style-type: none"> Yes Yes 	
D = D/200 Number of canopy	<ul style="list-style-type: none"> D/200 = xx Trees Hotel: 4026/200 = 20 	<ul style="list-style-type: none"> Hotel: 23 trees Commercial: 3 	<ul style="list-style-type: none"> Yes Yes 	

Item	Required	Proposed	Meets Code	Comments
trees required	trees <ul style="list-style-type: none"> Commercial: 193/200 = 1 tree 			
Parking Lot Perimeter Trees (Sec 5.5.3.C.iv)	<ul style="list-style-type: none"> 1 Canopy tree per 35 lf Hotel: 1398/35 = 40 trees Commercial: NA 	<ul style="list-style-type: none"> Hotel: 40 trees (13 trees along Heyn drive are double-counted as greenbelt trees per the ordinance. Commercial: 0 trees 	<ul style="list-style-type: none"> Yes Yes 	
Access Way Perimeter Trees (Sec 5.5.3.C.iii)(Footnote 5)	1 Canopy tree per 35 lf 85+25/35 = 3 trees	3 trees	Yes	
Parking land banked	NA	No		
Other Landscaping				
Non-Residential Zoning Sec 5.5.3.E.iii & LDM 1.d (2) Refer to Planting in ROW, building foundation landscape, parking lot landscaping and LDM				
Other Screening				
Screening of outdoor storage, loading/unloading (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)	Loading areas must be screened from view from all roads.	Loading area is located at the south end of the building which screens it from Grand River. Greenbelt/perimeter trees screen it from Heyn Drive	Yes	
Transformers/Utility boxes (LDM 1.e from 1 through 5)	<ul style="list-style-type: none"> A minimum of 2ft. separation between box and the plants Ground cover below 4" is allowed up to pad. No plant materials within 8 ft. from the doors 	No utility boxes are shown	TBD	<ol style="list-style-type: none"> Provide proper screening for any transformers on the landscape plan. If all transformer locations are not provided on plan, please add a note stating that all transformers and other utility boxes shall be screened per the city detail. Please add the estimated number of shrubs to screen the transformer to the plant list and add a note indicating that is what they are for.

Item	Required	Proposed	Meets Code	Comments
Building Foundation Landscape Requirements (Sec 5.5.3.D)				
Interior site landscaping SF	<ul style="list-style-type: none"> ▪ Equal to entire perimeter of the building (less paved access areas) x 8 with a minimum width of 4 ft. ▪ At least 75% of the building foundation should have landscaping. ▪ Patios cannot be deducted, but the width of the doors can ▪ Hotel: 737 lf x 8ft = 5896 SF ▪ Commercial: (590-80) x 8 = 4080sf 	<ul style="list-style-type: none"> ▪ Hotel: 6234 sf ▪ Commercial: 4072 sf (1156sf are away from the building) 	<ul style="list-style-type: none"> ▪ Yes ▪ No 	<ol style="list-style-type: none"> 1. If decorative paving is to count toward the foundation landscaping, please provide visual examples of the paving to be used, and quantify that area in SF. 2. The north patio needs to have landscaping adjacent to it, providing some separation from the parking lot. 3. A landscape deviation is required to locate the 1156sf away from the building, but it is supported by staff as it helps to screen the building from Grand River.
Zoning Sec 5.5.3.D.ii. All items from (b) to (e)	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	<ul style="list-style-type: none"> ▪ None of the hotel is visible from Grand River, 72% of the Heyn Drive frontage is landscaped ▪ 84% of the commercial building facing Grand River will have landscaping outside of the patio. 	<ul style="list-style-type: none"> ▪ Yes ▪ Yes 	
Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)				
Planting requirements (Sec. 5.5.3.E.iv)	<ul style="list-style-type: none"> ▪ Clusters of large native shrubs shall cover 70-75% of the basin rim area ▪ 10" to 14" tall grass along sides of basin ▪ Refer to wetland for basin mix 	<ul style="list-style-type: none"> ▪ Greenbelt and parking lot perimeter trees are double-counted to provide some of the pond coverage ▪ The required shrubs and trees 	Yes	<ol style="list-style-type: none"> 1. Please revise the south basin to have a more natural form if possible, based on volume required. 2. Please spread out the shrubs around the north side of the south basin to achieve a more

Item	Required	Proposed	Meets Code	Comments
		are provided. <ul style="list-style-type: none"> The ground cover is shown as being lawn. 		even coverage. 3. Please show the access pathways to the detention ponds on the landscape plans so plants can be arranged correctly.
Phragmites & Japanese Knotweed control (Sec 5.5.6.C)	<ul style="list-style-type: none"> Any and all populations of <i>Phragmites australis</i> and/or Knotweed species on site shall be included on tree survey. Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site. 	None indicated	TBD	1. Please survey the site for any populations of <i>Phragmites australis</i> and submit plans for its complete removal. 2. Please put the note regarding Phragmites on the Existing Conditions sheet. 3. Please also look for Japanese, giant or Bohemian knotweed on the site, and note its locations, or non-occurrence on the Existing Conditions sheet.
LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS				
Landscape Notes – Utilize City of Novi Standard Notes				
Installation date <i>(LDM 2.i. & Zoning Sec 5.5.5.B)</i>	<ul style="list-style-type: none"> Provide intended dates Should be between March 15 and November 15. 	Mar 15 – Nov 15	Yes	
Maintenance & Statement of intent <i>(LDM 2.m & Zoning Sec 5.5.6)</i>	<ul style="list-style-type: none"> Include statement of intent to install and guarantee all materials for 2 years. Include a minimum one cultivation in June, July and August for the 2-year warranty period. 	Yes	Yes	
Plant source <i>(LDM 2.n & LDM 3.a.(2))</i>	Shall be northern nursery grown, No.1 grade.	Yes	Yes	
Irrigation plan <i>(LDM 2.s.)</i>	<ul style="list-style-type: none"> A fully automatic irrigation system and a method of draining is required with Final Site Plan 	No		<u>Need for final site plan</u>

Item	Required	Proposed	Meets Code	Comments
	<ul style="list-style-type: none"> Alternative means of providing sufficient water for establishment and long-term survival of the plantings may be proposed instead. Plans and details for the alternative must be provided. 			
Other information (LDM 2.u)	Required by Planning Commission	NA		
Establishment period (Zoning Sec 5.5.6.B)	2 yr. Guarantee	Yes	Yes	
Approval of substitutions. (Zoning Sec 5.5.5.E)	City must approve any substitutions <u>in writing</u> prior to installation.	Yes	Yes	
Plant List (LDM 4) – Include all cost estimates				
Quantities and sizes	Refer to LDM suggested plant list	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> 19 of 34 species (56%) used are native to Michigan The trees meet the LDM tree diversity standard. 	<ul style="list-style-type: none"> Yes Yes 	
Type and amount of lawn		Seed	Yes	
Cost estimate (LDM 2.t)		For all new plantings, mulch, seed and sod as listed on the plan	Yes	Yes
Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		Yes	Yes	
Multi-stem Tree		Yes	Yes	
Shrub		Yes	Yes	
Perennial/ Ground Cover		Yes	Yes	
Tree stakes and guys. (Wood stakes, fabric guys)		Yes	Yes	
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	<ul style="list-style-type: none"> Three trees at the southeast corner of the site are being saved and 	<ul style="list-style-type: none"> Yes Yes 	

Item	Required	Proposed	Meets Code	Comments
		protected with tree fencing. <ul style="list-style-type: none"> A tree protection fence detail is provided. 		
Other Plant Material Requirements (LDM 3)				
General Conditions <i>(LDM 3.a)</i>	Plant materials shall not be planted within 4 ft. of property line	Notes provided	Yes	
Plant Materials & Existing Plant Material <i>(LDM 3.b)</i>	Clearly show trees to be removed and trees to be saved.	All trees except three at the south end of the property will be removed	Yes	
Landscape tree credit <i>(LDM3.b.(d))</i>	<ul style="list-style-type: none"> Substitutions to landscape standards for preserved canopy trees outside woodlands/ wetlands should be approved by LA. Refer to Landscape tree Credit Chart in LDM 	No		
Plant Sizes for ROW, Woodland replacement and others <i>(LDM 3.c)</i>	Refer to Landscape Design Manual for requirements			
Plant size credit <i>(LDM3.c.(2))</i>	NA	No		
Prohibited Plants <i>(LDM 3.d)</i>	No plants on City Invasive Species List	No prohibited plants proposed	Yes	
Recommended trees for planting under overhead utilities <i>(LDM 3.e)</i>	Label the distance from the overhead utilities		Yes	
Collected or Transplanted trees <i>(LDM 3.f)</i>		None		
Nonliving Durable Material: Mulch <i>(LDM 4)</i>	<ul style="list-style-type: none"> Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate. Refer to section for additional information 			

NOTES:

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi

Item	Required	Proposed	Meets Code	Comments
2.	requirements or standards.			The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design Manual for the appropriate items under the applicable zoning classification. 3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

TRAFFIC REVIEW



AECOM
 27777 Franklin Road
 Southfield
 MI, 48034
 USA
 aecom.com

Project name:
 JZ19-0024 Holiday Inn rPRO Concept Plan
 Traffic Review

To:
 Barbara McBeth, AICP
 City of Novi
 45175 10 Mile Road
 Novi, Michigan 48375

From:
 AECOM

Date:
 May 4, 2021

CC:
 Christian Carroll, Lindsay Bell, Kate Richardson,
 Madeleine Kopko, Victor Boron

Memo

Subject: JZ 19-0024 Holiday Inn rPRO Concept Plan Traffic Review

The revised PRO concept site plan was reviewed to the level of detail provided and AECOM recommends **approval** for the applicant to move forward with the condition that the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, Holiday Inn Express, is proposing a four-story, 117 guest room Holiday Inn hotel that includes a 40 seat restaurant, along with a 13,746 SF shopping center, located on the south side of Grand River Avenue, east of Beck Road.
2. Grand River Avenue is under the jurisdiction of the Road Commission for Oakland County (RCOC).
3. The parcel is currently zoned I-1 Light Industrial. The applicant is proposing a PRO to rezone it to TC, Town Center.
4. Summary of traffic-related waivers/variances:
 - a. A right turn taper is required along Grand River Avenue and is not currently provided. If a right turn taper is not proposed, a variance would be required.
 - b. Loading zone size variance required for existing loading zone size.

TRAFFIC IMPACTS

1. AECOM performed an initial trip generation estimate based on the ITE Trip Generation Manual, 10th Edition, as follows:

ITE Code: 310 (Hotel), 820 (Shopping Center)
 Development-specific Quantity: 117 Rooms, 13,746 SF
 Zoning Change: N/A

Trip Generation Summary				
	Estimated Trips (hotel + retail)	Estimated Peak- Direction Trips (hotel + retail)	City of Novi Threshold	Above Threshold?
AM Peak-Hour Trips	55 + 13 = 68	32 + 8 = 40	100	No
PM Peak-Hour Trips	70 + 125 = 195	36 + 65 = 101	100	Yes
Daily (One-Directional) Trips	978 + 1560 = 2538	N/A	750	Yes

- The number of trips exceeds the City’s threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour. AECOM recommends performing the following traffic impact study in accordance with the City’s requirements. Fitted curve equations were used for total and PM peak trips, while weighted average was used for AM trips.

Trip Impact Study Recommendation	
Type of Study:	Justification
Traffic Impact Statement (TIS)	The number of daily trips exceeds the City’s threshold of more than 750 trips per day, as well as PM trips of 100 trips. A TIS is reviewed in a separate letter.
Rezoning Traffic Study	The applicant is proposing rezoning the parcel from I-1 to TC with a PRO. An RTS was submitted and approval was recommended in a separate letter on June 18 th , 2019. The previously approved RTS (with restaurant) does not reflect the current development intent. The applicant should submit an updated RTS with currently proposed building use.

TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City’s Code of Ordinances. Items marked with ZO are listed in the City’s Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the ‘Compliance’ column read as ‘met’ for plan provision meeting the standard it refers to, ‘not met’ stands for provision not meeting the standard and ‘inconclusive’ indicates applicant to provide data or information for review and ‘NA’ stands for not applicable for subject Project. The ‘remarks’ column covers any comments reviewer has and/or ‘requested/required variance’ and ‘potential variance’. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed in the Plan	Compliance	Remarks
1	Driveway Radii O Figure IX.1	Not indicated	Inconclusive	Main entrance is existing, but side entrance should have radii included
2	Driveway Width O Figure IX.1	24’ and 26’	Met	
3	Driveway Island Length O Figure IX.1	N/A	N/A	
4	Emergency Access O 11-194.a.19	Provided	Met	
5	Driveway sight distance O Figure VIII-E	Not provided	Inconclusive	Provide detail in future plans.
6	Driveway spacing			
6a	Same-side O 11.216.d.1.d	N/A	N/A	Drives on Grand River Ave are existing
6b	Opposite side O 11.216.d.1.e	N/A	N/A	Drives on Grand River Ave are existing
7	External coordination (Road agency)	Required for any ROW Work	-	-
8	External Sidewalk Master Plan & EDM	Existing sidewalk along Grand River	N/A	

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed in the Plan	Compliance	Remarks
9	Sidewalk Ramps EDM 7.4 & R-28-J	Not indicated	Inconclusive	Provide detail in future plans, including existing ramps.
10	Any Other Comments:	Refer to Figures IX.10 and IX.11 and dimension any right turn deceleration lane and/or tapers for the entrance on Grand River Ave. Grand River Avenue's 24 hour volume requires a minimum of a right turn taper regardless of peak hour right turns, according to Figure IX.10.		

INTERNAL SITE OPERATIONS				
No.	Item	Proposed in the Plan	Compliance	Remarks
11	Loading zone ZO 5.4	660 SF for hotel and 800 SF for commercial building	Not Met	TC Zoning ordinance requires 10 SF for each foot of frontage. Variance required for current loading zones.
12	Trash receptacle ZO 5.4.4	Present in back yard for both buildings	Met	
13	Emergency Vehicle Access	Turning movements not provided	Inconclusive	Applicant should provide turning movements to show access.
14	Maneuvering Lane ZO 5.3.2	20' to 30'	Met	20' width will only be present when loading zone is in use behind building
15	End islands ZO 5.3.12			
15a	Adjacent to a travel way	Some dimensioned 3' shorter, others 2.75' shorter	Partially met	Island lengths should be set such that all with adjacent traffic are 3' shorter.
15b	Internal to parking bays	No dimensions	Inconclusive	Width and length should be included in future submittals. Internal islands may be the length of the parking spaces.
16	Parking spaces ZO 5.2.12			
17		N/A	-	
18	Parking space length ZO 5.3.2	17' perpendicular with curb, 19' perpendicular without curb, 23' parallel	Met	
19	Parking space Width ZO 5.3.2	9' for perpendicular spaces, parallel spaces not dimensioned	Inconclusive	The parallel spaces should be dimensioned.

INTERNAL SITE OPERATIONS				
No.	Item	Proposed in the Plan	Compliance	Remarks
20	Parking space front curb height ZO 5.3.2	6" curb	Not Met	17' spaces are only permitted with 4" curb that has a 2' clear overhang. The detail on sheet 5 shows to use 4" for parking but the grading plan shows 6" curb abutting the 17' spaces.
21	Accessible parking – number ADA	9	Met	167 surface parking spaces provided, requiring 6 ADA spaces.
22	Accessible parking – size ADA	Not indicated	Inconclusive	Dimension ADA spaces and aisles
23	Number of Van-accessible space ADA	3 labeled, no dimensions	Inconclusive	3 van accessible spaces indicated, but dimensions are not provided to verify.
24	Bicycle parking			
24a	Requirement ZO 5.16.1	8 spaces provided, 4 at hotel, 4 at shopping center	Not met	Hotels require 4 spaces, as provided. Shopping centers require 2% of parking or 8 spaces, whichever is greater.
24b	Location ZO 5.16.1	2 location indicated	Not met	Spaces at hotel should be located within 120 feet of main entrance.
24c	Clear path from Street ZO 5.16.1	Not provided	Inconclusive	Sidewalk from bike parking to roadway must be 6' wide with no overhang or 8' wide with 2' clear overhang for vehicles.
24d	Height of rack ZO 5.16.5.B	Not provided	Inconclusive	
24e	Other (Covered / Layout) ZO 5.16.1	Not provided	Inconclusive	
25	Sidewalk – min 5' wide Master Plan	5' and 7'	Partially met	5' minimum, 6' along bicycle paths. Dimension all proposed sidewalks.
26	Sidewalk ramps EDM 7.4 & R-28-J	Not indicated	Inconclusive	Ramps should be provided where the sidewalk intersects the curb.
27	Sidewalk – distance back of curb EDM 7.4	Abutting curb	Inconclusive	
28	Cul-De-Sac O Figure VIII-F	N/A	-	-
29	Turning Areas ZO 5.10.1.B.II	N/A	-	-

INTERNAL SITE OPERATIONS				
No.	Item	Proposed in the Plan	Compliance	Remarks
30	EV Parking ZO 5.2.15	9 PEV spaces provided	Not Met	As per 5.2.15.C.iv, the charging station must be at the edge of the 2' clear overhang for a 17' parking space abutting a 4" curb. The 5' clear path for pedestrians must be maintained. Signs identifying the PEV spaces should be included as well, as per 5.2.15.C.vi.
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed in the Plan	Compliance	Remarks
32	Signing: Sizes MMUTCD	Not included	Inconclusive	
33	Signing table: quantities and sizes	Not included	Inconclusive	
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post MMUTCD	Not included	Inconclusive	
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post MMUTCD	Not included	Inconclusive	
36	Sign bottom height of 7' from final grade MMUTCD	Not included	Inconclusive	
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign MMUTCD	Not included	Inconclusive	
38	FHWA Standard Alphabet series used for all sign language MMUTCD	Not included	Inconclusive	
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity MMUTCD	Not included	Inconclusive	
40	Parking space striping notes	Not included	Inconclusive	
41	The international symbol for accessibility pavement markings ADA	Not included	Inconclusive	
42	Crosswalk pavement marking detail	Not included	Inconclusive	

SIGNING AND STRIPING				
No.	Item	Proposed in the Plan	Compliance	Remarks
43	Maintenance of Traffic Plans	Not included	Inconclusive	
44	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,


AECOM



Patricia Thompson, EIT
Traffic Engineer



Paula K. Johnson, PE
Senior Transportation Engineer



Saumil Shah, PMP
Project Manager

TRAFFIC IMPACT STUDY REVIEW



AECOM
27777 Franklin Road
Southfield
MI, 48034
USA
aecom.com

Project name:
JZ19-24 – Holiday Inn TIS Traffic Review
From:
AECOM

Date:
May 3, 2021

To:
Barbara McBeth, AICP
City of Novi
45175 10 Mile Road
Novi, Michigan 48375

CC:
Lindsay Bell, Madeleine Kopko, Kate Richardson,
Victor Boron, Christian Carroll

Memo

Subject: JZ19-24 – Holiday Inn TIS Traffic Review

The Traffic Impact Study was reviewed to the level of detail provided and AECOM recommends **approval with conditions, as indicated**, of the Traffic Impact Study; the applicant should review the comments provided below and provide a revised study to the City.

GENERAL COMMENTS

1. The memo will provide comments on a section-by-section basis following the format of the submitted report.
2. The project is located on the south side of Grand River Avenue, between Beck Road and Taft Road.
3. The TIS and Shared Parking Study were completed for the project approval.

BACKGROUND DATA

1. The following roadways were included in the study:
 - a. Grand River Avenue: East/West, 50 mph, 5 lane with two-way left turn lane (TWLTL)
 - b. Beck Road: North/South, 45 mph, 3 lane with TWLTL
 - c. Taft Road: North/South, 35 mph, 3 lane with TWLTL
2. Pre-COVID-19 volumes and turning movement counts were obtained for March 3, 2020 from the RCOC SCATS database. Data from the 4th and the 5th were considered, but discarded due to events at the Suburban Collection Showplace venue.

EXISTING CONDITIONS

1. Overall Level of Service (LOS) at the intersections of Grand River Ave and Beck and Taft Roads for existing conditions is D for both peak periods.
 - a. At the Grand Drive and Beck intersection during the AM peak, westbound left, northbound through, and northbound right all operate at LOS F.
 - b. Multiple approaches at both AM and PM peak operate at LOS D or E.

BACKGROUND (NO BUILD) CONDITIONS 2023

1. A 0.5% annual growth rate was used to determine the 2023 build year data, based on the SEMCOG population and employment forecasts.
2. Overall operations at the intersections are not expected to change significantly, however, the LOS of the intersection at Grand River and Beck is expected to be LOS E (1.1-sec increase) during the AM peak period.

SITE TRIP GENERATION

1. A total of 2,450 daily trips and 66 and 187 trips (In+Out) during AM and PM hours are anticipated based on the ITE trip generation codes. Pass-by trip reductions were not included, resulting in a conservative estimate.

SITE TRAFFIC ASSIGNMENT

1. The existing peak hour traffic patterns on the adjacent roadway were used to calculate site trip distribution.

FUTURE CONDITIONS

1. Overall average intersection delays at the signalized intersections are not expected to be impacted greatly, with the LOS remaining at E during the AM peak and D during the PM peak.
 - a. An increase of 2.4 sec (LOS D in background condition to LOS E in future condition) is observed for Eastbound Through movement at Grand River Ave/Beck Road intersection during AM peak hour. TIS preparer concludes that SimTraffic network simulations indicate that the intersections are expected to operate in a manner similar to existing and background conditions with 95th queue length on eastbound through with minor increase from 585 feet in background condition to 590 feet in future condition.
 - b. During PM peak hour, SimTraffic results of the queue analysis at Grand River Ave/Beck Road intersection suggest an increase of 95th percentile queue length from 222 feet in background scenario to 964 feet in future-year scenario on eastbound through potentially blocking the access to the driveways at Providence Park hospital and Staples/Kroger (at approx. 600 feet) and left lane storage. However, the average delay on eastbound through for future-year is only 1.2 sec higher compared to background conditions during PM peak hour as per Synchro reports. TIS preparer concludes that SimTraffic network simulations for future-year conditions indicate that the intersections are expected to operate in a manner similar to existing and background conditions. TIS preparer to check this further and provide suitable mitigation if applicable.**
2. The site driveways are expected to operate at LOS E during the AM peak, but a queue analysis indicates the queue should not exceed 2 vehicles.

DRIVEWAY SPACING ANALYSIS

1. The driveway spacing proposed meets the requirements for the City of Novi.

PARKING ANALYSIS

1. The methodology used to evaluate the parking demand was based on the Shared Parking, 3rd Edition.
2. The reduction in peak weekday parking demand at 6 pm ranges from 25% to 70%.
 - a. The assumption that the restaurant in the hotel would only require parking spaces for 2 employees during dinner hours does not seem valid. However, the extra spaces required could be counted in the surplus.

3. The parking lot is expected to have 71% utilization at peak parking demand.

CONCLUSIONS

1. The overall level of service and queue analysis of the surrounding road facilities is not expected to degrade between the background conditions for 2023 and the build scenario except eastbound through during the PM peak period.
TIS Preparer to check this further and provide suitable mitigation if applicable.
2. The shared parking study for the hotel and commercial building indicates that 71% of the parking lot is expected to be utilized during peak times.
3. No mitigation measures are recommended, due to lack of cause.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

AECOM



Patricia Thompson, EIT
Traffic Engineer



Saumil Shah, PMP
Project Manager



Jeff Wood, PE, PTOE
Senior Traffic Engineer

FAÇADE REVIEW



June 29, 2020

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

Façade Review Status Summary:
Approved, Section 9 Waiver Not Required

Re: FAÇADE ORDINANCE – Revised PRO Concept Plan
Holiday Inn PRO, JZ19-24
 Façade Region: 1, Zoning District: I-1, Building Area: 80,000 S.F., 4-Story

Dear Ms. McBeth;

The following façade review is based on drawings prepared by Jarratt Architecture, based on the drawing dated 6/23/20. This project consists of construction of a 4-story hotel and a 1-story commercial building. Only the hotel drawings were provided at the time of this review. The proposed percentages of materials on each elevation are shown in the table below. The maximum and minimum percentage allowed by the Ordinance is shown in the right-hand column. Materials in non-compliance, if any, are shown in bold. The sample board required by Section 5.15.4.D was provided (in photographic format, dated 6/30/20) and is consistent with Ordinance Section 5.15.2 with respect to colors.

	East (Front)	South	North	West	Ordinance Maximum (Minimum)
Brick	40%	36%	37%	41%	100% (30% Min.)
Fiber Cement (Nichiha, Vintage Wood, Bark)	13%	11%	11%	11%	25%
EIFS	24%	25%	25%	25%	25%
Cultured Stone	23%	28%	27%	23%	50%

Recommendation - As indicated above all materials are in full compliance with the Façade Ordinance. A Section 9 Waiver is not required for this project. The applicant should provide additional information to clarify the color and intensity of the “continuous green lineal lighting element”. This can be done by providing nighttime photos of similar buildings. With respect to the lighting element, it should be noted the Façade Ordinance prohibits the use of façade materials to form a component or background of a sign and prohibits the use of intense colors.

In the event that the architectural design is included as part of the public benefit pursuant to the PRO, the facades would not be considered an enhancement from what would otherwise be anticipated. A sample board indicating carefully coordinated earth toned colors should be provided not less than 5 days prior to the planning commission meeting.

The detail for the dumpster enclosure on sheet S5 indicates “enclosure material to match the building material”. The dumpster enclosure is also required to be a minimum of 30% brick. Therefore, the note should be revised to read “brick to match the building”.

Notes to the Applicant:

1. Roof screens - The applicant should note that all roof top equipment must be screened from view from all vantage points both on and off-site using materials compliant with Section 5.15.

2. Façade Inspections – The Façade Ordinance requires inspection(s) for all projects. Materials displayed on the approved sample board will be compared to materials delivered to the site. It is the applicant’s responsibility to request the inspection of each façade material at the appropriate time. Inspections may be requested using the Novi Building Department’s Online Inspection Portal with the following link. Please click on “Click here to Request an Inspection” under “Contractors”, then click “Façade”.

<http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.

Sincerely,

DRN & Architects PC

A handwritten signature in black ink, appearing to read "Douglas R. Necci". The signature is fluid and cursive, written over the printed name below.

Douglas R. Necci, AIA

FIRE REVIEW



April 16, 2021

TO: Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Christian Carroll - Plan Review Center
Madeleine Daniels - Planning Assistant

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Andrew Mutch

Laura Marie Casey

Hugh Crawford

Justin Fischer

Julie Maday

City Manager
Peter E. Auger

**Director of Public Safety
Chief of Police**
David E. Molloy

Fire Chief
Jeffery R. Johnson

Assistant Chief of Police
Erick W. Zinser

Assistant Chief of Police
Scott R. Baetens

Assistant Fire Chief
John B. Martin

RE: Holiday Inn

PSP# 21-0014

Project Description:

Build a 4-story 117 guestrooms hotel at 46585 Grand River.

Comments:

- **All fire hydrants MUST be installed and operational prior to any combustible material is brought on site. (IFC 2015 3312.1)**
- For new buildings and existing buildings, you **MUST** comply with the International Fire Code Section 510 for Emergency Radio Coverage. This shall be completed by the time the final inspection of the fire alarm and fire suppression permits.
- **MUST add fire hydrants to site plan due to spacing has deficiencies.**
- Hydrants shall be spaced approximately three hundred (300) feet apart online in commercial, industrial, and multiple-residential areas. In cases where the buildings within developments are fully fire suppressed, hydrants shall be no more than five hundred (500) feet apart. The spacing of hydrants around commercial and/or industrial developments shall be considered as individual cases where special circumstances exist upon consultation with the fire chief. **(D.C.S. Sec. 11-68 (f)(1)c)**
- Fire Department Connection (FDC) Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the code official. **(IFC 2015 912.2.1)**
- A hazardous chemical survey is required to be submitted to the Planning & Community Development Department for distribution to the Fire Department at the time any Preliminary Site Plan is submitted for review and approval. Definitions of chemical types can be obtained from the Fire Department at (248) 735-5674.

Novi Public Safety Administration
45125 Ten Mile Road
Novi, Michigan 48375
248.348.7100
248.347.0590 fax

cityofnovi.org

- Fire apparatus access drives to and from buildings through parking lots shall have a minimum fifty (50) feet outside turning radius and designed to support a minimum of thirty-five (35) tons. **(D.C.S. Sec 11-239(b)(5)) (On the Northwest corner of the building driving from the east turning and going south, this corner does not meet city standards).**
- For the fire hydrant proposed on plans for the 1 story commercial building does not have size of the water main. Water mains greater than 25' in length MUST be 8 in diameter or greater. **(D.C.S. Sec.11-68(c)(1)(c))**
- *Proximity to hydrant.* In any building or structure required to be equipped with a fire department connection, the connection shall be located within one hundred feet (100') of a fire hydrant. **(IFC 2015 912.2.3)**
- Landscaping shall not block the access to the FDC. **(FC 2015 912.4)**
- Landscaping shall not block the sight of the fire alarm horn and strobe which will be mounted above the FDC. **(FC 2015 912.4)**

Recommendation:

APPROVED WITH CONDITIONS

Sincerely,

A handwritten signature in black ink, appearing to read 'KSP', with a long horizontal flourish extending to the right.

Kevin S. Pierce-Fire Marshal
City of Novi – Fire Dept.

cc: file

PROJECT NARRATIVE



September 8, 2021

Ms. Barb McBeth, AICP, City Planner
City of Novi Development Department
47175 10 Mile Road
Novi, MI 48375

Subject: **Project Narrative and Planner's Report Supporting the Rezoning Request for 46585 Grand River Avenue**, from I-1, Light Industrial to TC, Town Center with a Planned Rezoning Overlay (PRO).

Dear Ms. McBeth:

Please accept this project narrative and planner's report for consideration by the City to re-zone the above referenced parcel of land from I-1, Light Industrial to TC, Town Center with a Planned Rezoning Overlay (PRO). The project entails development of mixed-use site with a four story, full-service hotel and restaurant to the rear of the property and a retail building with a possible restaurant use along Grand River Avenue. The property is currently occupied by an older commercial/industrial building that will be removed to facilitate this new development. Access to the site will be exclusively from Grand River Avenue, which is a five-lane County Road and major thoroughfare.

Why Request a PRO Rezoning?

We recognize that some of the benefits being identified extend beyond the criteria detailed in the ordinance, yet they are benefits nonetheless. For example, placing a hotel and retail building at this location will encourage the type of development anticipated in the Master Plan. Conversely, constructing an industrial building under the current zoning will discourage the mixed-use development being sought. It should be noted that most PRO requests do not comply with the Master Plan while this one does. If another zoning district or option were available for this request it would certainly have been chosen. The PRO option is the only one that allows this type of development until a new zoning district is created by the City, better matching the City West District in the Future Land Use Plan.

Project Narrative

The parcel of land is located at the southeast corner of Heyn Drive and Grand River Avenue, east of Beck Road and west of Taft Road in the City of Novi, Michigan. It is located in close, walkable distance to the Suburban Collection Showplace and Providence Park medical complex. At the present time, the site is occupied by an industrial building and surrounded by a mix of older industrial, commercial and residential buildings. Since the property is currently zoned I-1, Light Industrial, the proposed hospitality and retail uses are not permitted in that District. These uses, however, more closely align with the City's vision for the City West district in the Future Land Use Plan than the current I-1 zoning designation. The above-mentioned close proximity to the Suburban Collection Showplace and the

Providence Park medical complex also supports and enhances the desirability of those facilities as regional draws to the area. A full-service hotel and associated retail commercial uses will benefit these uses and help change the image of the image of the Grand River corridor away from industrial use.

PRO Rezoning Criteria

Per *Section 713, Amendments to Ordinance, Subsection 2(D)(ii)*, “The applicant shall have the burden of demonstrating that the following requirements and standards are met by the PRO Plan, Conditions, and PRO Agreement:”

a. Approval of the application shall accomplish, among other things, and as determined in the discretion of the City Council, the integration of the proposed land development project with the characteristics of the project area, and result in an enhancement of the project area as compared to the existing zoning, and such enhancement would be unlikely to be achieved or would not be assured in the absence of the use of a PRO.

The subject site is currently zoned I-1, Light Industrial with a wide range of permitted and special land uses that do not match the City West Future Land Use designation found in the Master Plan. They include the incineration of garbage or refuse, dry cleaning plants or laundries, or junk yards, just to name a few. It is therefore not possible under the current ordinance to achieve the vision for the City West plan without rezoning to the TC, Town Center District with a Planned Rezoning Overlay (PRO). Recognizing that a new ordinance is being prepared to implement the vision for the City West area, it is not currently in place and will still take some time to go through the review process before being adopted. During that period, the City could receive site plan requests for industrial uses that meet current zoning but fail to match the vision of the Master Plan. The proposed development will certainly move the City West vision forward and hopefully encourage other similar new projects matching the Master Plan.

The Suburban Collection Showplace has recently expanded and City West calls for this regional attraction to be supplemented along Grand River Avenue with “the creation of a prominent new district combining entertainment, convention, commercial, office and residential uses in a cohesive, high density, walkable pattern.” Development of a full-service hotel and restaurant to the rear of the site and future retail building with a restaurant use and a pedestrian courtyard along Grand River Avenue will match that vision. Equally important, this development will encourage additional new development in an area that is underutilized with older, small industrial/commercial buildings.

The City West Plan “envisions three to five story buildings for most of the area, while building with frontage on I-96 may rise as high as 10 stories.” The proposed hotel will be four stories in height, thereby matching the vision for the City West Plan and providing an appropriate transition from I-96. It should also be noted that the hotel building will be separated from the abutting industrial building and property by a detention basin and landscaped buffer area.

PRO Benefits/Conditions

Some of the additional benefits (Appendix A) and resulting conditions (Appendix C) under the PRO rezoning include: the creation of a public space in front of the retail building; the installation of eight (8) EV charging stations that will be available to the public; and an open space calculation of 31.15%, which is more than double the required 15% in the TC District. While not identified as PRO benefits, additional benefits to the City include: the integration of retail, restaurant and hotel uses on a single site, better meeting the intent of the Town Center District; an enhanced tax benefit to the City over an industrial use; shared parking between the two buildings to minimize the impact of stormwater on the municipal system; and solar lights. Many of these features would not be attainable under the current I-1, Light Industrial zoning district nor would industrial uses match the Master Plan vision for this area.

As mentioned above, this project will also have a positive impact on the City of Novi with the creation of new, local tax revenue. The property is planned for a vibrant, new, mixed-use district in a cohesive, high-density walkable pattern. This type of development will also have a positive impact on City tax revenues versus a project constructed under the current I-1 zoning district. It is estimated that the construction cost for the hotel and retail commercial building will be approximately \$20,275,000 while an estimated 80,000 s.f. industrial building will cost approximately \$12,000,000 to build. Based upon the current City of Novi general tax millage, the proposed project will generate approximately \$213,650 annually while an industrial building on the subject site will generate \$126,451 annually in new taxes. This is a positive annual difference of \$87,199 to the City, not including the additional tax revenue to other County and City taxing jurisdictions.

b. Sufficient conditions shall be included on and in the PRO Plan and PRO Agreement on the basis of which the City Council concludes, in its discretion, that, as compared to the existing zoning and considering the site specific land use proposed by the applicant, it would be in the public interest to grant the rezoning with PRO; provided, in determining whether approval of a proposed application would be in the public interest, the benefits which would reasonably be expected to accrue from the proposal shall be balanced against, and be found to clearly outweigh the reasonably foreseeable detriments thereof, taking into consideration reasonably accepted planning, engineering, environmental and other principles, as presented to the City Council, following recommendation by the Planning Commission, and also taking into consideration the special knowledge and understanding of the City by the City Council and Planning Commission.

It is anticipated that the PRO Plan and associated PRO Agreement can be adjusted to ensure that the project is developed as promised and minimizes potential impacts on the surrounding area and environment. The proposed development would advance the public interest and ensure compatibility with planned and existing land uses in the area over currently permitted industrial uses. This is an area in transition and the proposed PRO moves in the direction being sought by the Planning Commission and City Council. Moreover, should industrial development under the current I-1 District regulations be proposed in this area, it could have the effect of discouraging the mixed-use development being sought in the City West Future Land Use District of the Novi Master Plan.

c. In the discretion of the City Council, it shall be determined that there is compliance with all of the General Standards for the approval of uses subject to special approval are met, as enumerated in Section 6.1.2.C.

The proposed uses are all identified as Permitted under the TC, Town Center District. Should there be any future uses that require special land use approval, all conditions will be met.

Conclusion

In conclusion, we kindly request positive consideration by the City of Novi Planning Commission and City Council on this matter. The requested TC, Town Center District with a Planned Rezoning Overlay (PRO) is the best option in the ordinance to implement the vision for the City West District in the Master Plan. It is also a great use of the property and will likely help attract other similar development to the area. The benefits being offered under the PRO option will create an improved mixture of uses and site amenities over the current I-1, Light Industrial zoning. We also understand that site plan approval will be still be needed and are ready to work cooperatively with the City to implement a great project. Furthermore, only two minor deviations are being requested and the Preliminary PRO Site Plan is in compliance with ordinance requirements

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Carmine P. Avantini", enclosed in a thin black rectangular border.

Carmine P. Avantini, AICP
President

Appendix A: Summary of Key Project Benefits

As mentioned in the report, this development complies with the Master Plan while most PRO requests do not. Absent creation of a new zoning district by the City, the only vehicle allowing this Master Plan-compliant request is the PRO rezoning option. With this in mind, the benefits provided extend beyond those identified in the ordinance. Below are the key project benefits supporting the PRO rezoning request:

PRO Benefits

- ✓ Creation of a pedestrian-oriented courtyard at the front of the retail building, along Grand River Ave.
- ✓ This project includes the use of eight (8) electric car charging stations and solar lights for a more environmentally-friendly development.
- ✓ 31.15% of the site has landscaped and pedestrian plaza areas accessible to the public; exceeding the required minimum of 15% in the TC District.

City Benefits

- ✓ The City West plan calls for this regional attraction to be supplemented along Grand River Avenue with “the creation of a prominent new district combining entertainment, convention, commercial, office and residential uses in a cohesive, high density, walkable pattern.” Development of a full-service hotel and restaurant to the rear of the site and a retail building with a restaurant use and pedestrian courtyard along Grand River Avenue will match that vision.
- ✓ This development will encourage additional new development, in an area that is underutilized with older, small industrial/commercial buildings, and help discourage the introduction of new industrial uses through current zoning.
- ✓ This request will integrate retail, restaurant and hotel uses on a single site, better meeting the intent of the Town Center District and hopefully be an anchor development on the south side of Grand River Ave.
- ✓ This project will provide an enhanced tax benefit of approximately \$87,199 to the City, over an industrial use, not including the additional tax revenue to other County and City taxing jurisdictions.
- ✓ Shared parking between the two buildings to minimize the impact of stormwater on the municipal system.
- ✓ This project provides an appropriate transition between the anticipated uses in the City West Plan for Grand River Ave. and the single-family residential uses to the south.
- ✓ The creation of temporary (construction) and permanent jobs in the City.

Appendix B: Summary of Requested Deviations

The following are the requested deviations:

1. From the commercial loading area (960 s.f. instead of the required 1,890 s.f.) and is supported by staff; and
2. For the building foundation landscaping, allowing it to be located away from the building, and is supported by staff.

1.

Appendix C: Project Conditions

The following are anticipated project conditions, although others can be added based upon project review and approval, and would be included in the PRO Agreement:

1. The City-approved PRO Concept Plan;
2. Execution of any required easements;
3. Development of a full-service, four story hotel and separate retail building with the potential for a restaurant use;
4. The provision of a minimum 31.15% permanently landscaped and pedestrian plaza areas accessible to the public; and
5. The provision of eight (8) electric vehicle charging stations, solar lighting, decorative pedestrian lighting, outdoor furniture, safety paths, etc. in accordance with the Town Center Study Area.

COMMUNITY IMPACT STATEMENT



Shummami-Novi Holiday Inn Community Impact Statement

April 28, 2020

Per the City of Novi Zoning Ordinance, a Community Impact Statement should address all of the following information:

1. *Expected annual number of police responses for the proposed development (can be based on statistics from similar developments);*

Based upon other facilities owned and operated by the applicant, the annual number of calls is minimal, since most incidents are handled by staff. This is especially true for the hotels and restaurants so we estimate that 2 calls per month, or an annual total of 24 calls can be expected.

2. *Expected annual number of fire responses for the proposed development (can be based on statistics from similar developments);*

As with the police calls, a minimal number of fire calls can be expected, with the majority being EMS calls. The applicant has confirmed that based upon calls for assistance at other locations, approximately 18 responses can be expected on an annual basis.

3. *Anticipated number of employees (include both permanent and construction jobs on site);*

With any of the above construction projects, there can be anywhere from 20 to 100 construction workers on-site, depending upon the phase of completion. It is also anticipated that there will be 15-20 permanent jobs at the hotel and 20-30 at the restaurant.

4. *Statement regarding compliance with City Performance Standards (Section 2519 of the Zoning Ordinance);*

All uses will be operated indoors and it is not anticipated that any of them will exceed the thresholds identified in the Performance Standards of *Section 5.14* of the ordinance.

5. *Estimated number of sewer and water taps and information on peak hour demand and min/max operating pressures for water system;*

The following is the estimated number of REU's for the proposed uses:

Proposed Use	REU's
Hotel	50
Restaurant	22

6. *Relationship of the proposed development with surrounding uses;*

The proposed development provides a change in land use from the older, existing industrial uses to more upscale hotel, restaurant and retail uses. These older, existing developments are intended to be replaced with uses similar and compatible with the proposed development, per the City West strategy in the City Master Plan. The hotel and ancillary uses will serve not only the Suburban Collection Showcase events, but also the Providence Park medical campus to the west.

7. *Description of proposed land use;*

The proposed land uses include a four (4) story, full-service hotel with an attached restaurant to the rear of the site and a future multi-tenant retail center fronting Grand River Avenue.

8. *Description of the environmental factors and impacts addressing the following:*

- a. *Natural features on the site (e.g., unusual topography, habitat areas, wetlands, woodlands, historic trees, etc.);*

Since this project involves the redevelopment of an old industrial site, there are no natural features on the site that would warrant preservation or special treatment.

- b. *Temporary and permanent impacts to natural features on the site;*

Since there are no outstanding natural features on the site, there will be no associated impacts.

- c. *Manufacture, use or storage of any hazardous or toxic materials on the site including Environmental Protection Agency requirements and the need for a Pollution Incidence Prevention Plan (PIPP);*

Based upon the proposed uses, there is no storage of hazardous or toxic materials that would require preparation of a Pollution Incidence Prevention Plan (PIPP).

- d. *Location, type, depth and contents of any existing or proposed underground storage tanks;*

Per the current owner of the site (who has extensive knowledge about the history of the site) there are no existing underground storage tanks on the property. Additionally, no new underground storage tanks are proposed as part of this development.

- e. *Environmental use and/or contamination history of the site (i.e., groundwater contamination, landfill, chemical spills, etc.); and*

The property has been most recently used for the manufacture of signs and the applicant is unaware of any contamination on the property.

- f. *Potential impacts to existing wildlife on site; and*

Since this is currently industrial site, there should be no negative impacts to existing wildlife.

9. *Description of the social impacts addressing the following:*

- a. *Replacement or relocation of any existing uses or occupants on the site;*

The sign business has already relocated to another property. As such, there is no need to replace or relocate any existing uses or occupants.

- b. *Traffic impacts (information can come from any required Traffic Impact Study or statistics from other similar developments when a study is not required);*

A traffic report has been provided, indicating that Grand River Avenue is capable of handling the additional vehicle trips to be generated by this development.

- c. *Proposed site amenities (i.e., sidewalks, public parks, bicycle paths, etc.); and*

The primary public site amenity is a sidewalk along the Grand River Ave. frontage and pedestrian connections into the site. The exact location of this sidewalk system will be determined at the time of site plan and construction plan review.

- d. *Increases in the permanent population of the City as a result of the proposed development (specific number should be identified and statistics from similar developments can be used).*

Since all of the uses are destination-oriented and no housing units are proposed, there should be no permanent increase in the population of the City.

APPLICANT RESPONSE LETTERS



Powell & Associates, LLC

4700 Cornerstone Drive
White Lake, MI 48383
Phone: (248)714-9895
Fax: (248)694-9222
Email: help@powelleng.net

September 7, 2021

Lindsay Bell
City of Novi Development Department
45175 West Ten Mile Road
City of Novi, MI 48375

RE: Site Plan Memo for 46585 Grand River, Novi, MI 48374 Powell Job No. 18-422

Dear Lindsey,

We look forward to presenting our project to the Planning Commission. As you know, we have been working on this project for some time and have made numerous changes to better meet the standards of the PRO Ordinance. We are confident that the revised plans provide benefits to the City and that the project will help implement the Master Plan vision for this district.

Changes to the Deviations per your comments on page 11 a-e:

- a) We have revised the commercial building footprint to eliminate the need for the setback deviation. It was a minor revision and reduced the square footage by less than 100 sf.
- b) The Shared Parking Study shows that we can accommodate the commercial building and the Hotel by analyzing the use traffic patterns and time of peak business for each use.

Justification – The Shared Parking Study allows the development to reduce the number of parking spaces needed, thereby, reducing the amount of impervious surfaces and increasing green space.

- c) The Commercial Building loading zone has been revised to 960 sf (16'x60') rather than the 1890 sf (16'x119') required by the ordinance.

Justification – The ordinance sizes the loading zones based on frontage rather than square footage of the building. This has caused the much larger hotel to need less loading zone than the smaller commercial building. In this case, the Commercial Building requires a typical loading zone that would work with any commercial building that can accommodate up to a 50 ft long delivery vehicle.

- d) A right turn Taper is shown at the entrance of Heyn drive. The East entrance of the development is shown as one-way out and a taper will not be needed for that drive. A deviation is not requested.

- e) A deviation has been requested to allow foundation landscaping to be located away from the building.

Justification - In order to create a more urban feel in the pedestrian plaza and create opportunities for outdoor seating and dining we are requesting a deviation for the allowance of 1,156 sf. of building foundation landscape to be pulled away from the building. The resulting planting plan will still screen the building foundation from Grand River Ave.

Sustainability:

A significant number of Native plantings have been shown on the landscape plan

We have provided electric car charging stations and bike racks that will be available to the public. Shuttles, Ubers, taxi cabs, and other forms of publicly available transportation options that are commonly used by Hotel guests will be available. We are not aware of a public transit (bus) service that currently has a route in our location. The owner is open to working with a transit system in the future as it could enhance travel opportunities to the corridor in general.

There are not many opportunities for solar lighting. However, we have added 2 signs that will illustrate local sites and these should/could be solar. The owner will also explore additional solar lighting in the public space. Any lighting designed for safety, probably should not be solar but any lighting devoted to aesthetics should/could be solar. All lighting should be properly timed and/or automated for shut off when not in use.

The building will use fully automated through-wall HVAC systems (PTAC) that automatically adjusts the temperature when people leave the room. All lighting will be fully automated in the same way. Environmentally friendly interior finishes and materials including wall coverings and fabrics. All these items are above and beyond the building code.

Identifying Benefits to Public:

1-4 (9, 10) : If they cannot be “positive features” and they are not “negative features” but they have to be one of these. It could be a matter of degree and they could be considered a “positive feature” in totality.

5. The Plaza Area open to the public next to Grand River will include seating, landscaping, art signs and walls, and bicycle parking.

6. The Shared Parking Study allows the development to reduce the number of parking spaces needed, thereby, reducing the amount of impervious surface and increasing green space.

7. The Electric Car charging stations are available to the public.

8. We are providing 31.15% of Open Space for the whole development, more than double the 15% minimum.

9. The proposed zoning request is a better transition to residential than industrial and does not need to be “adjacent” to residential to create a benefit. Remaining Industrial (a more intense use) would not benefit the residential properties or be in line with the Master Plan. The goods, services, and jobs more in line with residentially zoned needs would benefit the community.

10. Unlike most other PRO Rezoning applications, this request *does* comply with the master plan so the benefits being provided go beyond those called for in the PRO Ordinance. If a zoning district matching the master plan were currently available, there would be *no need* to apply under the PRO ordinance and this would likely be a permitted or special land use. We therefore ask the Planning Commission to look at the benefits more broadly, since this request does implement the vision of the master plan.

11. While a minor improvement the solar Local Sights Signs can be a service to the hotel, commercial building, and public who find themselves in the Plaza Area.

We look forward to your questions and comments.

Sincerely,

POWELL ENGINEERING & ASSOCIATES, LLC
Consulting Engineers



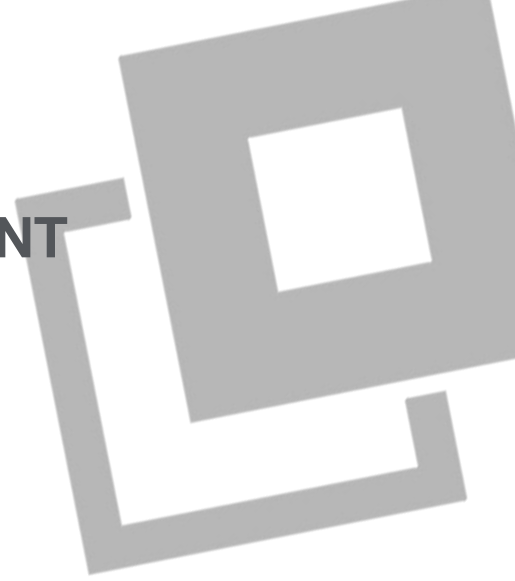
Michael C. Powell, P.E.
President

**TRAFFIC IMPACT STUDY/
PARKING ANALYSIS**

PROPOSED HOTEL DEVELOPMENT TRAFFIC IMPACT STUDY

NOVI, MICHIGAN

REVISED JULY 26, 2021



PREPARED BY:



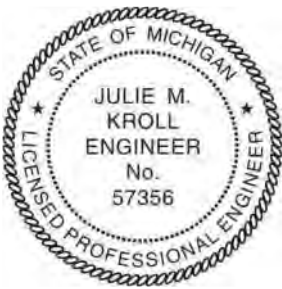
27725 STANSBURY BLVD., SUITE 195
FARMINGTON HILLS, MI 48834

F&V #854330
© July 2021

Notice and Disclaimer

This document is provided by Fleis & VandenBrink Engineering, Inc. for informational purposes only. No changes or revisions may be made to the information presented in the document without the express consent of Fleis & VandenBrink Engineering, Inc. The information contained in this document is as accurate and complete as reasonably possible. Should you find any errors or inconsistencies, we would be grateful if you could bring them to our attention.

The opinions, findings, and conclusions expressed herein are those of Fleis & VandenBrink Engineering, Inc. and do not necessarily reflect the official views or policy of City of Novi, or the Road Commission of Oakland County (RCOC), which makes no warranty, either implied or expressed, for the information contained in this document; neither does it assume legal liability or responsibility for the accuracy, completeness or usefulness of this information. Any products, manufacturers or trademarks referenced in this document are used solely for reference purposes.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

Agency Review	Date	Comments
City of Novi	May 11, 2021	Provided by City/AECOM in review letter.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
BACKGROUND DATA	2
TRIP GENERATION	2
REZONING TRAFFIC STUDY	2
SITE TRIP DISTRIBUTION	3
CONCLUSIONS	3
RECOMMENDATIONS	4
1 INTRODUCTION	5
2 BACKGROUND DATA	8
2.1 EXISTING ROAD NETWORK	8
2.2 EXISTING TRAFFIC VOLUMES	8
2.3 SIGNAL TIMING PERMITS	9
3 EXISTING CONDITIONS	9
3.1 EXISTING OPERATIONS	9
4 BACKGROUND (NO BUILD) CONDITIONS 2023	12
4.1 BACKGROUND OPERATIONS	12
5 TRIP GENERATION	14
5.1 SITE TRIP GENERATION	14
5.2 REZONING TRAFFIC STUDY	15
6 SITE TRAFFIC ASSIGNMENT	15
7 FUTURE CONDITIONS	16
7.1 FUTURE OPERATIONS	16
8 DRIVEWAY SPACING ANALYSIS	19
8.1 DRIVEWAY SPACING	19
9 PARKING ANALYSIS	20
9.1 PROJECTED PARKING DEMAND	20
9.2 PROPOSED PARKING SUPPLY	20
9.3 PARKING ANALYSIS SUMMARY	21
10 CONCLUSIONS	22
11 RECOMMENDATION	23

LIST OF TABLES

TABLE E1: TRIP GENERATION SUMMARY	2
TABLE E2: TRIP GENERATION COMPARISON	2
TABLE E3: TRIP DISTRIBUTION	3
TABLE 1: EXISTING INTERSECTION OPERATIONS	9

TABLE 2: BACKGROUND INTERSECTION OPERATIONS..... 14

TABLE 3: TRIP GENERATION SUMMARY 14

TABLE 4: TRIP GENERATION COMPARISON 15

TABLE 5: SITE TRIP DISTRIBUTION 16

TABLE 6: FUTURE INTERSECTION OPERATIONS..... 19

TABLE 7: DRIVEWAY SPACING 19

LIST OF FIGURES

FIGURE E1: SITE LOCATION..... 1

FIGURE 1: SITE LOCATION 5

FIGURE 2: LANE USE AND TRAFFIC CONTROL 10

FIGURE 3: EXISTING TRAFFIC VOLUMES 11

FIGURE 4: BACKGROUND TRAFFIC VOLUMES..... 13

FIGURE 5: SITE-GENERATED TRAFFIC VOLUMES 17

FIGURE 6: FUTURE TRAFFIC VOLUMES..... 18

LIST OF APPENDICES

- A. BACKGROUND INFORMATION
- B. EXISTING TRAFFIC CONDITIONS
- C. BACKGROUND TRAFFIC CONDITIONS
- D. FUTURE TRAFFIC CONDITIONS

REFERENCES

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO). (2018). *A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS*. WASHINGTON DC.

FEDERAL HIGHWAY ADMINISTRATION, MICHIGAN DEPARTMENT OF TRANSPORTATION, MICHIGAN STATE POLICE. (2011). *MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES*.

INSTITUTE OF TRANSPORTATION ENGINEERS. (2017). *TRIP GENERATION MANUAL, 10TH EDITION*. WASHINGTON DC.

NATIONAL RESEARCH COUNCIL (U.S.) TRANSPORTATION RESEARCH BOARD. (2016). *HIGHWAY CAPACITY MANUAL, 6TH EDITION (HCM6)*. WASHINGTON, D.C.: TRANSPORTATION RESEARCH BOARD.

PAPACOSTAS, & PREVEDOUROS. (2001). *TRANSPORTATION ENGINEERING AND PLANNING*.

STOVER, V. G., & KOEPKE, F. J. (2006). *TRANSPORTATION AND LAND DEVELOPMENT (VOL. 2ND EDITION)*. WASHINGTON DC: INSTITUTE OF TRANSPORTATION ENGINEERS (ITE).



EXECUTIVE SUMMARY

This report presents the results of a Traffic Impact Study (TIS) for the proposed development in the City of Novi, Michigan. The project site is located at 46593 Grand River Ave. on approximately 6.2 acres of property adjacent to the south side of Grand River Avenue, as shown in **Figure E1**. The development is proposed to include a hotel and retail building with site access provided via two driveways on Grand River Avenue. The Road Commission of Oakland County (RCOC) has jurisdiction over Grand River Avenue. As part of the site plan approval requirements for this project F&V completed a Traffic Impact Study (TIS) consistent with accepted traffic engineering practice and pursuant to the requirements of the City of Novi and their traffic consultant AECOM.

In addition, F&V completed a Shared Parking Study for the project site to determine recommended parking supply for the site. The analysis was performed to calculate the reduction in overall site parking supply required that is attributed to the synergy of the land uses. The seasonal, daily, and hourly parking demand variations were applied to each land use based on data published in the Urban Land Institute (ULI) in Shared Parking, 3rd Edition ULI.

FIGURE E1: SITE LOCATION



The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE), and pursuant to the requirements of the City of Novi and the RCOC. Additionally, F&V solicited input regarding the scope of work from the City of Novi and their traffic consultant AECOM.

BACKGROUND DATA

Due to the impact of COVID-19, current traffic volume data is not representative of “typical” operations. Therefore, pre-COVID existing weekday turning movement traffic volume data at the signalized study intersections were obtained from the RCOC SCATS database for Tuesday, March 3, 2020 and were used in this study.

A background growth rate was applied to these volumes to determine background future traffic volume in the buildout year 2023. The Southeast Michigan Council of Governments (SEMCOG) traffic volume forecasts (2015 – 2045) were reviewed in order to determine the applicable growth rate for the existing traffic volumes. A **0.5%** annual growth rate was used in this study.

TRIP GENERATION

The proposed project includes a 16,413 SF commercial building to serve as a retail building and a hotel with 117 rooms. Access is proposed via two existing site driveways on Grand River Avenue. The trip generation is summarized in **Table E1** and was used in the study to evaluate the impact of the proposed development on the adjacent roadway system. *Note: Pass-by trip reductions were not included in this study to provide a conservative analysis.*

Table E1: Trip Generation Summary

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Shopping Center	820	16,413	SF	1,759	9	6	15*	69	74	143
Hotel	310	117	Rooms	894	31	22	53	32	30	62
Total Trips				2,653	40	28	68	101	104	205

*Rates used in the calculations due to small size and projected limited AM operations.

REZONING TRAFFIC STUDY

The maximum trip generation potential of the subject site was forecast for the existing I-1 zoning and the proposed TC zoning classifications and was compared to the projected trips generated by the proposed development. The trip generation forecasts are shown in **Table E2**.

Table E2: Trip Generation Comparison

Zoning	Land Use	ITE Code	Size	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Existing I-1	Health/Fitness Club	492	55,000	SF	n/a	37	35	72	108	82	190
	Medical Office Building	720	60,000	SF	2,218	111	31	142	58	150	208
<i>Max for existing zoning (I-1)</i>						111	31	142	58	150	208
Proposed TC	Shopping Center	820	60,000	SF	4,248	113	69	182	179	193	372
	General Office Building	710	55,000	SF	594	67	11	78	10	55	65
<i>Max for proposed zoning (TC)</i>						113	69	182	179	193	372
Proposed Development	Shopping Center	820	16,413	SF	1,759	9	6	15*	69	74	143
	Hotel	310	117	Room	894	31	22	53	32	30	62
<i>Total for proposed development</i>						40	28	68	101	104	205

*Rates used in the calculations due to small size and projected limited AM operations.

The results of the trip generation comparison indicate that the proposed development will generate significantly less traffic during weekday, AM, and PM peak hour than the potential trip generation associated with the existing I-1 zoning and proposed TC zoning. Therefore, the proposed development has less of an impact on the adjacent roadway system.

SITE TRIP DISTRIBUTION

The vehicular trips that would be generated by the proposed development were assigned to the study roads based on existing peak hour traffic patterns on the adjacent roadway network and the methodologies published by ITE. To determine the distribution of site generated traffic it was assumed that adjacent street trips in the AM are generally home-to-work and PM trips are generally work-to-home. Therefore, the distribution utilizes the existing traffic volumes and patterns to provide an estimated distribution for the site-generated traffic. The trip distribution used in this study is summarized in **Table E3**.

Table E3: Trip Distribution

Via	To/From	AM	PM
Beck Road	North	30%	34%
	South	16%	15%
Taft Road	South	8%	6%
Grand River Avenue	East	13%	17%
	West	33%	28%
Total		100%	100%

CONCLUSIONS

The overall impact of the projected site generated traffic at the adjacent study intersections is negligible. The overall intersection delay at Grand River Avenue & Beck Road is expected to be 1 to 3 seconds, which is indiscernible. Moreover, the overall intersection delay and approach delays at the intersection of Grand River Avenue and Taft Road is expected to remain very similar to existing/background conditions. Further information regarding the existing, background and future operations are summarized below.

1. Existing Conditions

Grand River Avenue & Beck Road

- The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.
- Review of SimTraffic network simulations indicates long vehicle queues for the northbound and southbound movements, especially for the southbound left-turn movement during the AM peak period; however, these vehicle queues were observed to dissipate and were not present throughout the peak periods.

Grand River Avenue & Taft Road

- The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.
- The review of SimTraffic network simulations indicates that the 95th percentile queue length reported for the northbound left-turn movement was 152 feet and 199 feet (approximately 8 vehicles) during the AM and PM peak hour, respectively. However, this queue length is observed to dissipate in next signal cycle and were not present throughout the peak hour.

2. Background Conditions

The results of the Background conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to Existing conditions with the following additional delays due to background traffic volumes:

Grand River Avenue & Beck Road

- The overall intersection delay is expected to increase by one (1) second with the addition of background traffic volumes, which will be indiscernible from existing intersection operations.
- The overall intersection is expected to operate at LOS E during the AM peak period.
- The eastbound right-turn movements are expected to operate at LOS E during the AM peak period.

- Westbound right-turn movements are expected to operate at LOS E during the PM peak period.

Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing conditions

3. Future Conditions

The results of the Future conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to Background conditions. The projected intersection operations with the addition of the site generated traffic are summarized below.

Grand River Avenue & Beck Road

- The overall intersection delay is expected to increase by 1 to 3 seconds with the addition of future traffic volumes, which will be indiscernible from existing intersection operations.
- The eastbound through movements are expected to operate at LOS E during the AM peak period.
- Review of SimTraffic network simulations indicates that the intersections are expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Site Driveways

- The northbound right/left-turn shared movements are expected to operate at LOS E during the AM peak period at both site driveways. However, the review of SimTraffic network simulations indicates a 95th percentile queue length of 35 feet and 38 feet (1-2 vehicles) at the W. Site Drive and E. Site Drive, respectively, which is not significant.

4. Access Management

- The proposed site driveway spacing which meets the City of Novi driveway spacing requirements.

5. Shared Parking Study

- The shared parking analysis shows that there is adequate parking to accommodate the projected peak parking demand for this site.
- A parking lot is typically designed to accommodate 85-95% occupancy, depending on the proposed land use(s), layout, and parking management (self-parking, valet, active parking management, etc.). The peak utilization for this site is within the recommended thresholds.

Proposed Parking Supply	Peak Demand	Peak Utilization	Surplus
154 spaces	135 spaces	88%	19 spaces

RECOMMENDATIONS

- The results of this study indicate that the impact of the proposed development on the adjacent roadway system is minimal and the existing roadway network can adequately accommodate the projected site generated traffic. Therefore, no mitigation measures are recommended.

1 INTRODUCTION

This report presents the results of a Traffic Impact Study (TIS) for the proposed development in the City of Novi, Michigan. The project site is located at 46593 Grand River Ave. on approximately 6.2 acres of property adjacent to the south side of Grand River Avenue, as shown in **Figure 1**. The development is proposed to include a hotel and retail building with site access provided via two driveways on Grand River Avenue. The Road Commission of Oakland County (RCOC) has jurisdiction over Grand River Avenue. As part of the site plan approval requirements for this project F&V completed a Traffic Impact Study (TIS) consistent with accepted traffic engineering practice and pursuant to the requirements of the City of Novi and their traffic consultant AECOM.

In addition, F&V completed a Shared Parking Study for the project and to determine recommended parking supply for the site. The analysis was performed to calculate the reduction in overall site parking supply for the proposed land uses. The seasonal, daily, and hourly parking demand variations were applied to each land use based on data published in the Urban Land Institute (ULI) in Shared Parking, 3rd Edition ULI.

The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE), and pursuant to the requirements of the City of Novi and the RCOC. Additionally, F&V solicited input regarding the scope of work from the City of Novi and their traffic consultant AECOM. Specific tasks undertaken for this study include the following:

SCOPE OF WORK

1. Study Area

- a. Provide a description of the study area including: surrounding land uses, intersection and roadway geometries, speed limits, functional classifications, and traffic volume data (where available). In addition, a study area site map showing the site location and study intersections will also be provided.

2. Proposed Land Use

- a. Obtain and review the proposed site plan which includes the proposed land uses, densities, and desired site access locations. A description of the current and proposed land use, including characteristics such as the gross and leasable floor area, and number of employees, will be accompanied with a complete project site plan (with buildings identified as to proposed use). A schedule for construction of the development and proposed development stages will also be provided.

3. Existing Conditions

- a. Provide an analysis of the traffic-related impacts of the proposed development at the following study intersections:
 - Grand River Ave. & Beck Road
 - Grand River Ave. & Taft Road
 - The proposed site access points
- b. Due to the impact of COVID-19 and the subsequent closures of business and schools, current traffic volume data is not representative of "typical" operations. Therefore, the data collection necessary for this study is proposed as follows:
 - i. Obtain existing SCATS count data from RCOC at the signalized study intersections for use in this study. The SCATS data will be requested for a Tuesday, Wednesday, and Thursday (typical weekdays) prior to March 10, 2020 to obtain an average weekday prior to the statewide closures. A typical weekday will include fair weather conditions when school is in session and typical traffic operations (no crash impacts or construction).
 - ii. Traffic volumes at the unsignalized study intersections will be determined through balancing the traffic volumes along the Grand River Corridor.
- c. Obtain signal timing permits at the signalized study intersections from RCOC for use in the study.
- d. Identify the Existing AM and PM peak hour traffic volumes at the study intersections based on turning movement count data.

FIGURE 1: SITE LOCATION



FIGURE 1 SITE LOCATION MAP

NOVI HOTEL DEVELOPMENT TIS - NOVI, MI

LEGEND



SITE LOCATION



NORTH
SCALE: NOT TO SCALE

- e. Calculate the Existing vehicle delays, LOS, and vehicle queues at the study intersections during the AM and PM. The analysis will be performed at each of the study intersections. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.
- f. Identify improvements (if any) for the study road network that would be required to accommodate the existing traffic volumes.

4. Future Background Growth

- a. If the planned completion date for the project or the last phase of the project is beyond one year of the study, an estimate of background traffic growth for the adjacent street network will be made and included in the analysis.
- b. Calculate the future background traffic volumes based on an appropriate traffic growth determined from local or statewide data to the project build-out year and/or any applicable background developments in the vicinity of this project, as identified by the City of Novi.
- c. Provide background growth rate assumptions to the City of Novi/AECOM for review and approval for use in the analysis.

5. Background Conditions (No Build)

- a. Calculate the **Background (without the proposed development)** vehicle delays, LOS, and vehicle queues at the study intersections during the AM and PM peak periods. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.
- b. Any state, local, or private transportation improvement projects in the project study area that will be underway in the build-out year and traffic that is generated by other proposed developments in the study area will be included as background conditions.
- c. Identify improvements (if any) for the study road network that would be required to accommodate the background traffic volumes.

6. Trip Generation

- a. Forecast the number of AM and PM peak hour trips that would be generated by the proposed development based on data published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 10th Edition* and/or local development data as approved for use in the study by the City of Novi.
- b. Provide trip generation assumptions to the City of Novi/AECOM for review and approval for use in the analysis.
- c. A table will be provided in the report outlining the categories and quantities of land uses, with the corresponding trip generation rates or equations, and the resulting number of trips.

7. Trip Distribution and Traffic Assignment

- a. Assign the trips that would be generated by the proposed development to the adjacent road network based on existing traffic patterns. The distribution of the estimated trip generation to the adjacent street network and nearby intersections shall be included in the report and the basis will be explained. The distribution percentages with the corresponding volumes will be provided in a graphical format.
- b. Provide the trip distribution assumptions to the City of Novi/AECOM for review and approval for use in the analysis.
- c. Combine the site-generated traffic assignments with the background traffic forecasts to establish the Future AM and PM peak hour traffic volumes.

8. Future Conditions

- a. Calculate the **Future (with the proposed development)** vehicle delays, LOS, and vehicle queues at the study intersections. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.

- b. Identify improvements (if any) for the study road network that would be required to accommodate the site-generated traffic volumes.

9. Access Management

- a. Evaluate the City of Novi intersection spacing criteria to determine if the proposed site access driveways are in accordance with City requirements.

10. Shared Parking Study

- a. Calculate the parking requirements for the proposed development land uses based on the City of Novi zoning ordinance.
- b. Apply the seasonal, daily, and hourly parking demand variations for each land use based on data published in the Urban Land Institute (ULI) in Shared Parking, 3rd Edition ULI, to determine the reduction in overall site parking supply required that is attributed to the synergy of the land uses.
- c. Evaluate the adequacy of overall site parking based on the proposed number of on-site parking spaces and the projected shared parking demand.

The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice, and information published by the Institute of Transportation Engineers (ITE). The study analyses were completed using Synchro/SimTraffic (Version 10). Sources of data for this study include RCOC, ITE, and the Southeast Michigan Council of Governments (SEMCOG). All background information is provided in **Appendix A**.

2 BACKGROUND DATA

2.1 EXISTING ROAD NETWORK

Vehicle transportation for the proposed development is proposed via two existing site driveways on Grand River Ave. The lane use and traffic control at the study intersections are shown on **Figure 2** and the study roadways are further described below. For the purposes of this study, all minor streets and driveways are assumed to have an operating speed of 25 miles per hour (mph), unless otherwise noted.

Grand River Avenue runs in the east and west directions with a posted speed limit of 50 mph. Grand River Avenue is under the jurisdiction of RCOC and the study section is classified as a *Minor Arterial*, with an ADT volume of approximately 23,200 vehicles per day (MDOT 2016) in the vicinity of the project area. Grand River Ave. has a typical five-lane cross-section, with two lanes in each direction and a center left-turn lane.

Beck Road runs in the north and south directions with a posted speed limit of 45 mph. Beck Road is under the jurisdiction of the City of Novi and the study section of the road is classified as a *Minor Arterial* with an AADT volume of approximately 18,850 vehicles per day (MDOT 2019) in the vicinity of the project area. The study section of Beck Road has a typical three-lane cross-section, with one lane in each direction and a center left-turn lane.

Taft Road runs in the north and south directions with a posted speed limit of 35 mph. Taft Road is under the jurisdiction of the City of Novi and the study section of the road is classified as a *Major Collector* with an AADT volume of approximately 6,440 vehicles per day (MDOT 2016). The study section of Taft Road has a typical three-lane cross-section, with one lane in each direction and a center left-turn lane.

2.2 EXISTING TRAFFIC VOLUMES

Due to the impact of COVID-19, current traffic volume data is not representative of "typical" operations. Therefore, pre-COVID existing weekday turning movement traffic volume data at the signalized study intersections were obtained from the RCOC SCATS database for the week of March 3, 2020 to March 5, 2020 (Tuesday - Thursday). However, there were events at the Suburban Collection Showplace venue on March 4 and March 5, 2020. Therefore, only traffic data for Tuesday, March 3, 2020 were used in this study. The peak periods for the adjacent streets were observed to generally occur between 7:30 AM to 8:30 AM and 5:00 PM to 6:00 PM. The traffic volume data are included in **Appendix A** and the existing peak hour traffic volumes are shown on **Figure 3**.

2.3 SIGNAL TIMING PERMITS

Signal timing permits at the study intersections were provided by RCOC for use in this study and are provided in **Appendix A**. The signal timing permits confirmed that the intersections all run on the SCATS software and the adjacent Grand River Avenue & Suburban Collection Showplace Drive runs on flash mode (minor street STOP controlled) during typical weekday operations. The signal runs actuated on the SCATS system only when there is a large special event at the Suburban Collection Showplace.

3 EXISTING CONDITIONS

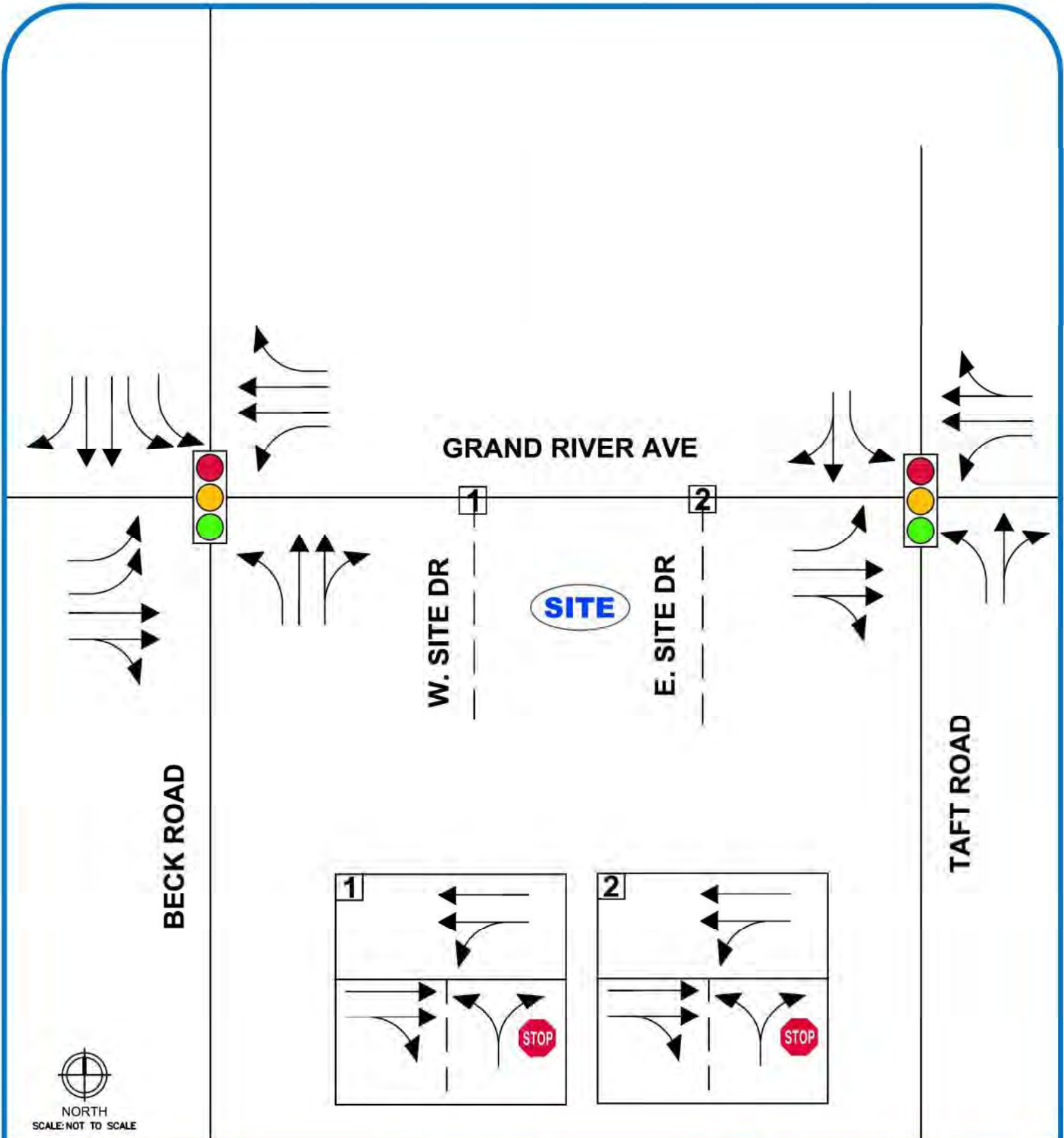
3.1 EXISTING OPERATIONS

The existing AM and PM peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersection using Synchro traffic analysis software. The results of the analysis of existing conditions were based on the existing lane use and traffic control shown on **Figure 2**, the existing traffic volumes shown on **Figure 3**, and the methodologies presented in the Highway Capacity Manual 6th Edition (HCM6).

Descriptions of LOS “A” through “F” as defined in the HCM, are provided in **Appendix B** for signalized and unsignalized intersections. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. Microsimulations were also conducted at the study intersections using SimTraffic to further evaluate the network performance. The results of the analysis of existing conditions are presented in **Appendix B** and are summarized in **Table 1**.

Table 1: Existing Intersection Operations

Intersection	Control	Approach	Existing Conditions			
			AM Peak		PM Peak	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS
1 Grand Rive Ave & Beck Road	Signalized	EBL	60.3	E	66.2	E
		EBT	51.3	D	28.4	C
		EBR	51.5	D	28.5	C
		WBL	103.8	F	65.3	E
		WBT	33.4	C	42.0	D
		WBR	23.4	C	54.7	D
		NBL	73.5	E	76.0	E
		NBT	82.3	F	51.3	D
		NBR	83.3	F	51.9	D
		SBL	67.3	E	55.1	E
		SBT	39.0	D	47.0	D
		SBR	24.3	C	32.5	C
Overall		54.6	D	48.6	D	
2 Grand Rive Ave & Taft Road	Signalized	EBL	4.4	A	7.7	A
		EBT	32.3	C	44.4	D
		EBR	33.1	C	44.3	D
		WBL	35.2	D	18.7	B
		WBT	63.6	E	50.3	D
		WBR	62.9	E	49.8	D
		NBL	45.8	D	63.5	E
		NBTR	73.8	E	64.4	E
		SBL	60.0	E	60.0	E
		SBTR	62.4	E	73.0	E
Overall		45.3	D	46.9	D	



NORTH
SCALE: NOT TO SCALE



FIGURE 2
LANE USE AND TRAFFIC CONTROL

NOVI HOTEL DEVELOPMENT TIS - NOVI, MI

LEGEND	
	ROADS
	PROPOSED ROADS
	LANE USE
	PROPOSED LANE USE
	SIGNALIZED INTERSECTION
	UNSIGNALIZED INTERSECTION
	ROUNDBOUT INTERSECTION

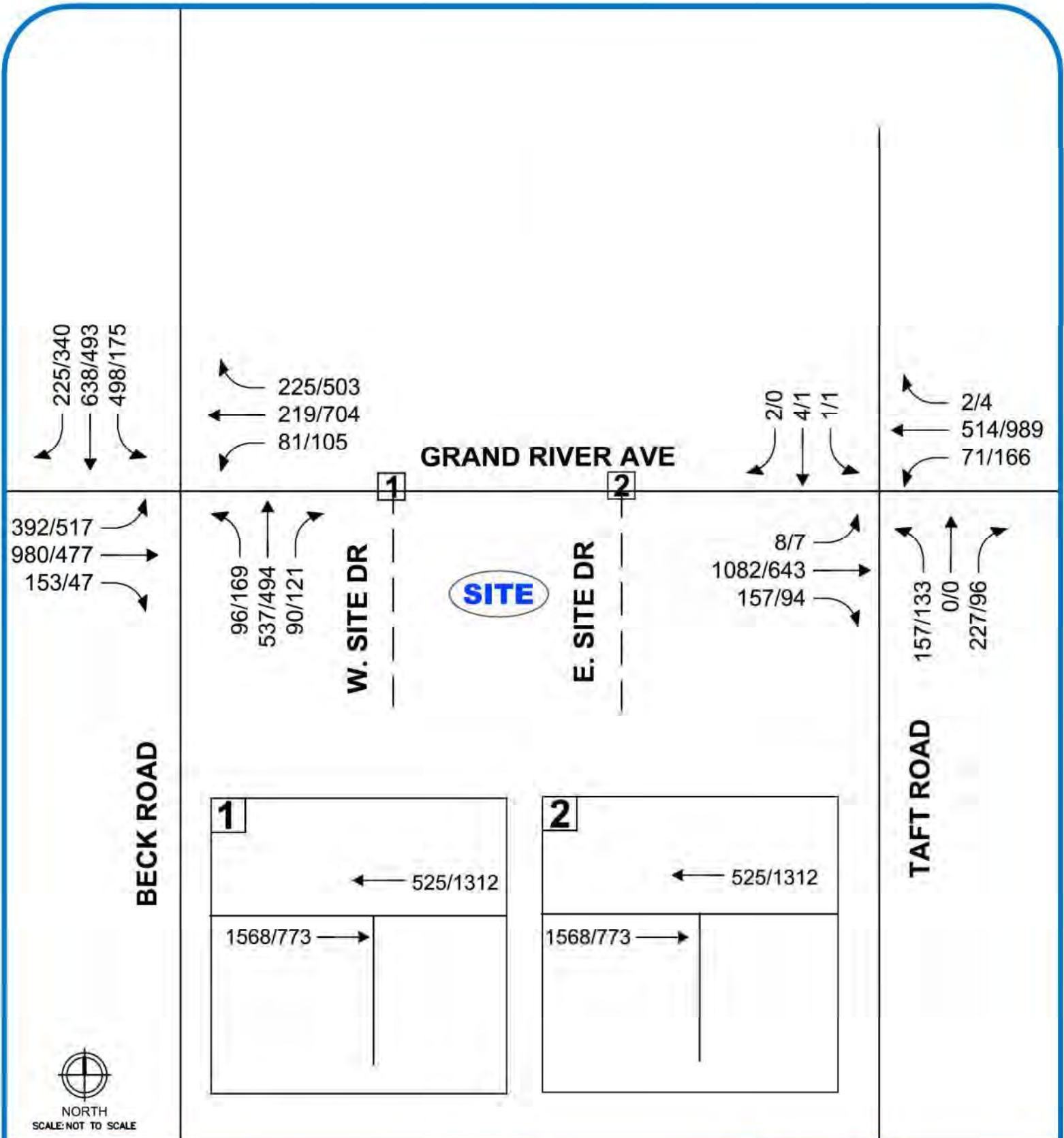


FIGURE 3
EXISTING TRAFFIC
VOLUMES

NOVI HOTEL DEVELOPMENT TIS - NOVI, MI



LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)

1. Grand River Avenue & Beck Road

- The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.
- Review of SimTraffic network simulations indicates long vehicle queues for the northbound and southbound movements, especially for the southbound left-turn movement during the AM peak period; however, these vehicle queues were observed to dissipate and were not present throughout the peak periods.

2. Grand River Avenue & Taft Road

The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.

- The review of SimTraffic network simulations indicates that the 95th percentile queue length reported for the northbound left-turn movement was 152 feet and 199 feet (approximately 8 vehicles) during the AM and PM peak hour, respectively. Lower minor street demand leads to longer signal splits to eastbound-westbound traffic. In addition, longer cycle length (i.e., 120s) also contributes to increased delays for the northbound left-turn movements. However, this queue length is observed to dissipate in next signal cycle and were not present throughout the peak hour.

4 BACKGROUND (NO BUILD) CONDITIONS 2023

4.1 BACKGROUND OPERATIONS

The proposed development is anticipated to be constructed in 2023; therefore, the Southeast Michigan Council of Governments (SEMCOG) community profiles were reviewed for the City of Novi, in order to determine an applicable traffic growth for the background 2025 conditions. The SEMCOG population and employment forecasts (2015 – 2045) were reviewed and the forecasts showed a 0.57% and 0.24% annual growth for the City of Novi's population and employment, respectively. Therefore, an annual growth rate of **0.5%** was applied to the existing 2020 traffic volumes to calculate the 2023 buildout year traffic volume *without the proposed development*. The background traffic volumes are shown on **Figure 4**.

Background peak hour vehicle delays and LOS were calculated based on the future lane use and traffic control shown on **Figure 2**, the background traffic volumes shown on **Figure 4**, and the methodologies presented in the HCM6. The results of the analysis of background conditions are presented in **Appendix C** and are summarized in **Table 2**.

The results of the background conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to existing conditions with the following additional delays due to background traffic volumes:

1. Grand River Avenue & Beck Road

The overall intersection delay is expected to increase by one (1) second with the addition of background traffic volumes, which will be indiscernible from existing intersection operations.

- The overall intersection is expected to operate at LOS E during the AM peak period.
- The eastbound right-turn movements are expected to operate at LOS E during the AM peak period.
- Westbound right-turn movements are expected to operate at LOS E during the PM peak period.

2. Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing conditions.

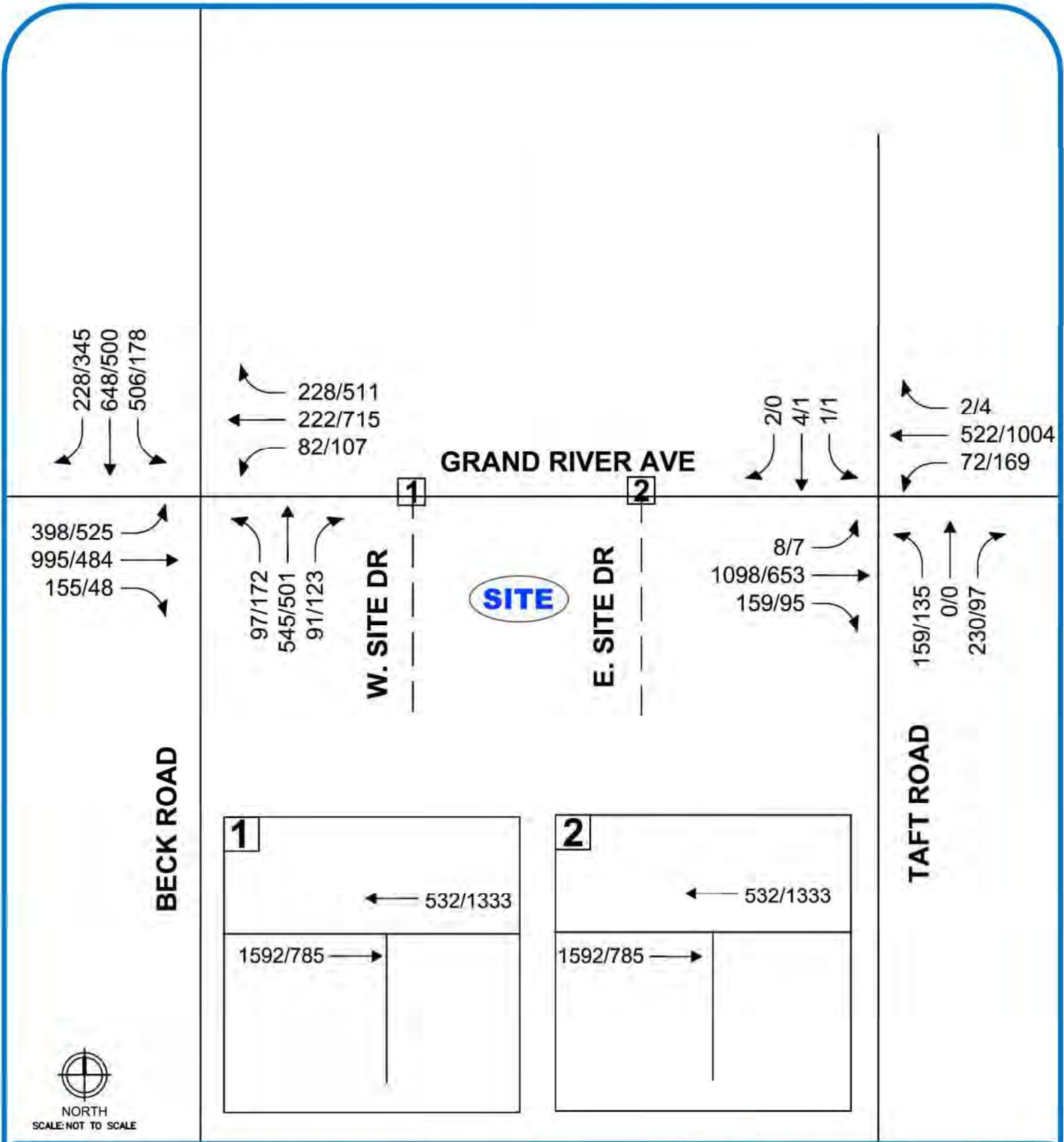


FIGURE 4
BACKGROUND TRAFFIC
VOLUMES

NOVI HOTEL DEVELOPMENT TIS - NOVI, MI



LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)

Table 2: Background Intersection Operations

Intersection	Control	Approach	Existing Conditions				Background Conditions				Difference				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Grand Rive Ave & Beck Road	Signalized	EBL	60.3	E	66.2	E	60.6	E	66.8	E	0.3	-	0.6	-
			EBT	51.3	D	28.4	C	54.8	D	29.0	C	3.5	-	0.6	-
			EBR	51.5	D	28.5	C	55.1	E	29.0	C	3.6	D→E	0.5	-
			WBL	103.8	F	65.3	E	106.1	F	65.8	E	2.3	-	0.5	-
			WBT	33.4	C	42.0	D	34.0	C	43.4	D	0.6	-	1.4	-
			WBR	23.4	C	54.7	D	23.9	C	59.7	E	0.5	-	5.0	D→E
			NBL	73.5	E	76.0	E	75.2	E	76.0	E	1.7	-	0.0	-
			NBT	82.3	F	51.3	D	82.3	F	50.9	D	0.0	-	-0.4	-
			NBR	83.3	F	51.9	D	83.1	F	51.4	D	-0.2	-	-0.5	-
			SBL	67.3	E	55.1	E	67.3	E	55.2	E	0.0	-	0.1	-
			SBT	39.0	D	47.0	D	38.7	D	46.9	D	-0.3	-	-0.1	-
			SBR	24.3	C	32.5	C	23.9	C	32.3	C	-0.4	-	-0.2	-
Overall	54.6	D	48.6	D	55.7	E	49.6	D	1.1	D→E	1.0	-			
2	Grand Rive Ave & Taft Road	Signalized	EBL	4.4	A	7.7	A	4.7	A	8.2	A	0.3	-	0.5	-
			EBT	32.3	C	44.4	D	31.9	C	44.0	D	-0.4	-	-0.4	-
			EBR	33.1	C	44.3	D	32.9	C	43.9	D	-0.2	-	-0.4	-
			WBL	35.2	D	18.7	B	35.7	D	19.0	B	0.5	-	0.3	-
			WBT	63.6	E	50.3	D	63.3	E	49.9	D	-0.3	-	-0.4	-
			WBR	62.9	E	49.8	D	62.6	E	49.3	D	-0.3	-	-0.5	-
			NBL	45.8	D	63.5	E	45.7	D	64.0	E	-0.1	-	0.5	-
			NBTR	73.8	E	64.4	E	74.0	E	64.4	E	0.2	-	0.0	-
			SBL	60.0	E	60.0	E	60.0	E	60.0	E	0.0	-	0.0	-
			SBTR	62.4	E	73.0	E	62.4	E	73.0	E	0.0	-	0.0	-
			Overall	45.3	D	46.9	D	45.1	D	46.7	D	-0.2	-	-0.2	-

5 TRIP GENERATION

5.1 SITE TRIP GENERATION

The proposed project includes a 16,413 SF commercial building to serve as a small shopping center and a hotel with 117 rooms. Access is proposed via two existing site driveways on Grand River Avenue. The trip generation is summarized in **Table 3** and was used in the study to evaluate the impact of the proposed development on the adjacent roadway system. *Note: Pass-by trip reductions were not included in this study to provide a conservative analysis.*

Table 3: Trip Generation Summary

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Shopping Center	820	16,413	SF	1,759	9	6	15*	69	74	143
Hotel	310	117	Rooms	894	31	22	53	32	30	62
Total Trips				2,653	40	28	68	101	104	205

*Rates used in the calculations due to small size and projected limited AM operations.

5.2 REZONING TRAFFIC STUDY

The City Zoning Ordinance describes the land uses permitted by-right under the existing I-1 and proposed TC zoning classifications. In order to determine the maximum site trip generation potential under the existing and proposed zoning classifications, the principal uses permitted under each zoning classification must be matched to the land use categories described by the Institute of Transportation Engineers (ITE) in *Trip Generation, 10th Edition*. The maximum allowable density for these uses was assumed based on similar projects.

The Ordinance definition of uses permitted under I-1 zoning includes professional office buildings, medical office buildings, medical clinic, labs, and fitness centers. Review of the ITE land use descriptions indicates that the Health/Fitness Club (LUC 492) and Medical Office (LUC 720) uses generate the highest trips and best match the uses defined by the Ordinance. The Ordinance definition of uses permitted under TC zoning includes daycare, residential dwelling units, hotels, instructional centers, office, restaurants, retail business, theatres, and more. Review of the ITE land use descriptions indicates that Shopping Center (LUC 820) and General Office Building (LUC 710) uses generate the highest trips and best match the uses defined by Ordinance.

The proposed development includes a hotel and a commercial building that may be leased for use as retail uses. Review of the ITE land use descriptions indicates that Hotel (LUC 310) and Shopping Center (LUC 820) uses match the uses defined by Ordinance under the proposed zoning.

The number of Weekday, AM peak hour, and PM peak hour vehicle trips was calculated based on the rates and equations published by ITE in *Trip Generation, 10th Edition*. The maximum trip generation potential of the subject site was forecast for the existing I-1 zoning and the proposed TC zoning classifications and was compared to the projected trips generated by the proposed development. The trip generation forecasts are shown in **Table 4**.

Table 4: Trip Generation Comparison

Zoning	Land Use	ITE Code	Size	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Existing I-1	Health/Fitness Club	492	55,000	SF	n/a	37	35	72	108	82	190
	Medical Office Building	720	60,000	SF	2,218	111	31	142	58	150	208
<i>Max for existing zoning (I-1)</i>						111	31	142	58	150	208
Proposed TC	Shopping Center	820	60,000	SF	4,248	113	69	182	179	193	372
	General Office Building	710	55,000	SF	594	67	11	78	10	55	65
<i>Max for proposed zoning (TC)</i>						113	69	182	179	193	372
Proposed Development	Shopping Center-Small	820	16,413	SF	1,759	9	6	15*	69	74	143
	Hotel	310	117	Room	894	31	22	53	32	30	62
<i>Total for proposed development</i>						40	28	68	101	104	205

*Rates used in the calculations due to small size and projected limited AM operations.

The results of the trip generation comparison indicate that the proposed development will generate less traffic during weekday, AM, and PM peak hour than the potential trip generation associated with the existing I-1 zoning and proposed TC zoning. Therefore, the proposed development has less of an impact on the adjacent roadway system.

6 SITE TRAFFIC ASSIGNMENT

The vehicular trips that would be generated by the proposed development were assigned to the study roads based on the proposed site access plan, the existing peak hour traffic patterns on the adjacent roadway network, and the methodologies published by ITE. The adjacent street traffic volumes were used to develop the trip distribution. In order to determine the projected site traffic distribution, it was assumed that the existing adjacent street traffic volumes in the AM are home-to-work based trips, and in the PM are work-to-home based trips. Therefore, the site trip distribution for the proposed development is based on trips entering the site in the AM, and exiting the study network and returning home in the PM. The ITE trip distribution methodology assumes that new trips will return to their direction of origin. The site trip distribution used in the analysis is summarized in **Table 3**.

The vehicular traffic volumes shown in **Table 3** were distributed to the roadway network according to the distribution shown in **Table 5**.

Table 5: Site Trip Distribution

Via	To/From	AM	PM
Beck Road	North	30%	34%
	South	16%	15%
Taft Road	South	8%	6%
Grand Rive Ave.	East	13%	17%
	West	33%	28%
Total		100%	100%

7 FUTURE CONDITIONS

The site generated trips are shown on **Figure 5** and were added to the future background traffic volumes shown on **Figure 4** to calculate the future peak hour traffic volumes with the proposed development. Future traffic volumes are shown on **Figure 6**.

7.1 FUTURE OPERATIONS

The future peak hour vehicle delays and LOS *with the proposed development* were calculated based on the future lane use and traffic control shown on **Figure 2**, the proposed site access plan, the future traffic volumes shown on **Figure 6**, and the methodologies presented in the HCM. The results of the future conditions analysis are presented in **Appendix D** and are summarized in **Table 6**.

The results of the background conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to existing conditions. The projected intersection operations with the addition of the site generated traffic are summarized below.

Grand River Avenue & Beck Road

The overall intersection delay is expected to increase by 1 to 3 seconds with the addition of site generated traffic volumes, which will be indiscernible from existing intersection operations.

- The eastbound through movements are expected to operate at LOS E during the AM peak period.
- Review of SimTraffic network simulations indicates that the intersections are expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Site Driveways

- The northbound right/left-turn shared movements are expected to operate at LOS E during the AM peak period at both site driveways. However, the review of SimTraffic network simulations indicates a 95th percentile queue length of 35 feet and 38 feet (1-2 vehicles) at the W. Site Drive and E. Site Drive, respectively, which is not significant.

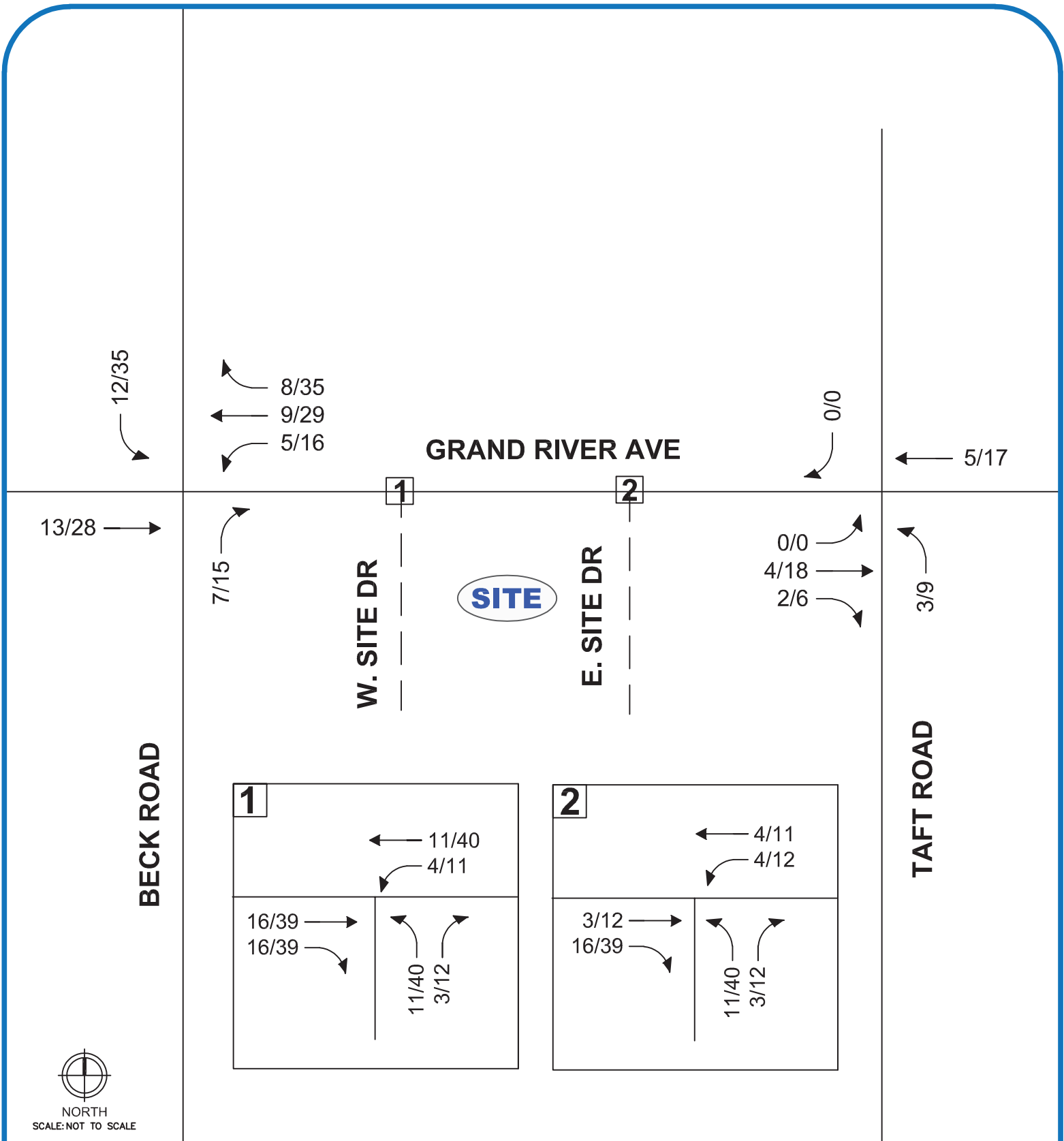


FIGURE 5
SITE-GENERATED
TRAFFIC VOLUMES

NOVI HOTEL DEVELOPMENT TIS - NOVI, MI

LEGEND

- ROADS
- - - PROPOSED ROADS
- ↔ TRAFFIC VOLUMES (AM/PM)

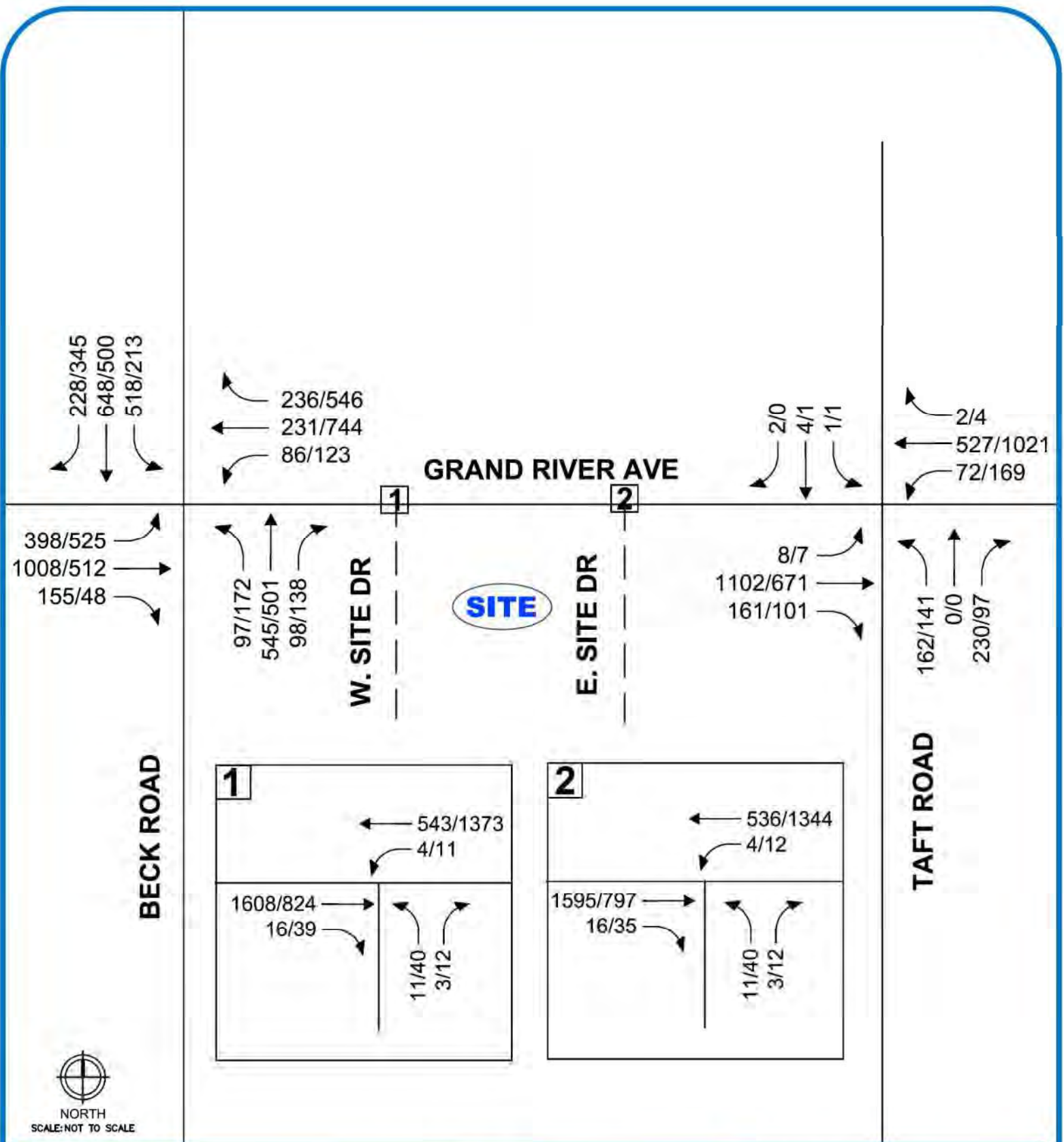


Table 6: Future Intersection Operations

Intersection	Control	Approach	Background Conditions				Future Conditions				Difference				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Grand River Ave & Beck Road	Signalized	EBL	60.6	E	66.8	E	60.6	E	73.4	E	0.0	-	6.6	-
			EBT	54.8	D	29.0	C	57.2	E	30.3	C	2.4	D→E	1.3	-
			EBR	55.1	E	29.0	C	57.6	E	30.3	C	2.5	-	1.3	-
			WBL	106.1	F	65.8	E	121.1	F	67.3	E	15.0	-	1.5	-
			WBT	34.0	C	43.4	D	34.4	C	43.3	D	0.4	-	-0.1	-
			WBR	23.9	C	59.7	E	24.1	C	69.2	E	0.2	-	9.5	-
			NBL	75.2	E	76.0	E	75.2	E	76.0	E	0.0	-	0.0	-
			NBT	82.3	F	50.9	D	85.4	F	52.9	D	3.1	-	2.0	-
			NBR	83.1	F	51.4	D	86.4	F	53.5	D	3.3	-	2.1	-
			SBL	67.3	E	55.2	E	69.1	E	57.3	E	1.8	-	2.1	-
			SBT	38.7	D	46.9	D	38.5	D	47.2	D	-0.2	-	0.3	-
			SBR	23.9	C	32.3	C	23.7	C	33.1	C	-0.2	-	0.8	-
Overall	55.7	E	49.6	D	57.4	E	52.1	D	1.7	-	2.5	-			
2	Grand River Ave & Taft Road	Signalized	EBL	4.7	A	8.2	A	4.8	A	8.5	A	0.1	-	0.3	-
			EBT	31.9	C	44.0	D	31.8	C	43.4	D	-0.1	-	-0.6	-
			EBR	32.9	C	43.9	D	32.8	C	43.2	D	-0.1	-	-0.7	-
			WBL	35.7	D	19.0	B	35.9	D	19.5	B	0.2	-	0.5	-
			WBT	63.3	E	49.9	D	63.1	E	49.5	D	-0.2	-	-0.4	-
			WBR	62.6	E	49.3	D	62.4	E	49.0	D	-0.2	-	-0.3	-
			NBL	45.7	D	64.0	E	45.9	D	65.9	E	0.2	-	1.9	-
			NBTR	74.0	E	64.4	E	74.0	E	64.2	E	0.0	-	-0.2	-
			SBL	60.0	E	60.0	E	60.0	E	60.0	E	0.0	-	0.0	-
			SBTR	62.4	E	73.0	E	62.4	E	73.0	E	0.0	-	0.0	-
Overall	45.1	D	46.7	D	45.1	D	46.4	D	0.0	-	-0.3	-			
3	Grand River Ave & W. Site/ Hyne Drive	STOP (Minor)	WBL	N/A				15.4	C	10.0	B	N/A			
			WBT					Free	Free						
			EB					Free	Free						
			NB					38.4	E	24.0	C				
4	Grand River Ave & E. Site Drive	STOP (Minor)	WBL	N/A				15.3	C	9.9	A	N/A			
			WBT					Free	Free						
			EB					Free	Free						
			NB					37.8	E	23.4	C				

8 ACCESS MANAGEMENT

8.1 SITE DRIVEWAY SPACING

According to the City of Novi, the minimum separation between driveways shall be based upon the posted speed limit of the street. The required and proposed spacing between driveways are presented in **Table 7**, which indicates that the proposed driveways on Grand River Avenue meet the desired driveway spacing requirement.

Table 7: Site Driveway Spacing

Major Road	Adjacent Driveways	Spacing Requirement	Spacing Proposed
Grand River Avenue	W. and E. Site Drives	275 feet	300 feet

9 PARKING ANALYSIS

A parking analysis was performed for this site to determine if the proposed parking supply is adequate to accommodate the proposed land uses. A parking analysis is performed with a two-step process. The first step in determining the parking needs for a development is to calculate the projected parking *demand*. Parking demand calculations determine how much parking will be generated by the development. Step two is to determine if there is adequate parking supply to accommodate the projected parking demand.

The recommended parking supply for this development was further evaluated using the shared parking methodology as outlined in Urban Land Institute (ULI) in Shared Parking, 3rd Edition. This methodology assumes that a single parking space may be utilized by two or more individual land uses without conflict based on the hourly, daily, and seasonal variations in parking demand. The parking requirements were calculated according to the City ordinance rates and were distributed according to the ULI distributions by month, day, and hour to determine the projected peak shared parking demand.

9.1 PROJECTED PARKING DEMAND

The proposed land uses and sizes for this analysis are based on the proposed site plan. The City of Novi Zoning Ordinance was used to determine the parking requirements for each of the proposed land uses.

The proposed development includes hotel, hotel restaurant, and a retail business building. The proposed land uses, sizes and other relevant information included in this study are as follows:

Land Use	Size
Retail Building	16,413 SF (13,130 SF Gross Leasable Area)
Hotel Development	117 hotel room
Hotel Development (Employees)	4 persons
Hotel Development (Restaurant)	40 Seats
Hotel Development (Restaurant Employee)	7 persons

The parking requirements for this proposed development are summarized in **Table 8** and the shared parking reduction in parking demand.

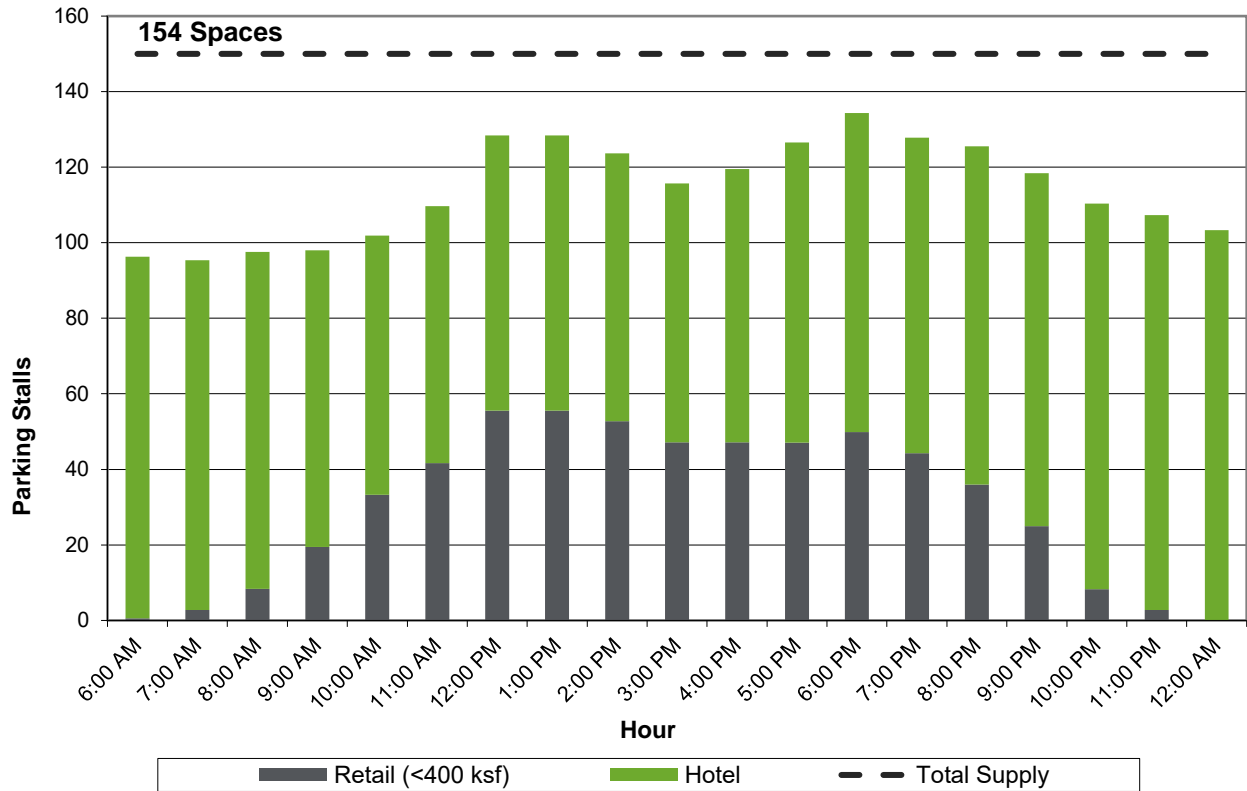
Table 8: Parking Demand Summary

Land Use	Size	City Ordinance Parking Requirements	Parking Requirement Per ordinance (no shared parking)	Peak Weekday Demand Shared Parking 6:00 PM
Retail (<400 ksf)	13,130 SF	1 space per 200 SF	66	50
Hotel	117 rooms	0.85 space per room	100	75
Hotel (Employees)	4 persons	1 space per employee	4	2
Hotel Restaurant	40 Seats	1 space per 2 seats	20	6
Hotel Restaurant (Employees)	7 Persons	1 space per 2 employees	4	2
Total (spaces)			193	135

9.2 PROPOSED PARKING SUPPLY

The proposed site plan provides 154 surface parking spaces. These parking spaces will be available for use by all proposed developments on the site. The peaking characteristics of the proposed land uses have complimentary operations, so during the peak hour for the hotel the retail parking is available and conversely the hotel parking is available during the peak for the retail site. The projected hourly parking demand for the proposed land uses as compared to the proposed parking supply are shown on **Chart 1**.

Chart 1: Peak Month Daily Parking Demand by Hour (Weekday)



9.3 PARKING ANALYSIS SUMMARY

A parking lot is typically designed to accommodate 85-95% occupancy, depending on the proposed land use(s), layout, and parking management (self-parking, valet, active parking management, etc.). As vehicles traversing through the parking lot search for the open spaces or wait for vehicles to exit, providing a buffer between supply and demand, allows for easier turnover in the parking lot and less congestion.

The projected peak parking demand and the parking supply are summarized in **Table 9** and show that there is adequate parking to accommodate the projected peak parking demand for this site through the use of shared parking.

Table 9: Parking Analysis Summary

Proposed Parking Supply	Peak Demand	Peak Utilization	Surplus
154 spaces	135 spaces	88%	19 spaces

10 CONCLUSIONS

The overall impact of the projected site generated traffic at the study intersections is negligible. The overall intersection delay at Grand River Avenue & Beck Road is expected to be 1 to 3 seconds, which is indiscernible. Moreover, the overall intersection delay and approach delays at the intersection of Grand River Avenue and Taft Road is expected to remain very similar to existing/background conditions. Further information regarding the existing, background and future operations are summarized below.

The conclusions of this TIS are as follows:

1. Existing Conditions

Grand River Avenue & Beck Road

- The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.
- Review of SimTraffic network simulations indicates long vehicle queues for the northbound and southbound movements, especially for the southbound left-turn movement during the AM peak period; however, these vehicle queues were observed to dissipate and were not present throughout the peak periods.

Grand River Avenue & Taft Road

- The overall intersection is currently operating at LOS D during both AM and PM peak periods. However, several individual movements currently operate at LOS E or F.
- The review of SimTraffic network simulations indicates that the 95th percentile queue length reported for the northbound left-turn movement was 152 feet and 199 feet (approximately 8 vehicles) during the AM and PM peak hour, respectively. However, this queue length is observed to dissipate in next signal cycle and were not present throughout the peak hour.

2. Background Conditions

The results of the Background conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to Existing conditions with the following additional delays due to background traffic volumes:

Grand River Avenue & Beck Road

- The overall intersection delay is expected to increase by one (1) second with the addition of background traffic volumes, which will be indiscernible from existing intersection operations.
- The overall intersection is expected to operate at LOS E during the AM peak period.
- The eastbound right-turn movements are expected to operate at LOS E during the AM peak period.
- Westbound right-turn movements are expected to operate at LOS E during the PM peak period.

Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing conditions

3. Future Conditions

The results of the Future conditions analysis show that the intersection approaches and movements will continue to operate in a similar manner to Background conditions. The projected intersection operations with the addition of the site generated traffic are summarized below.

Grand River Avenue & Beck Road

- The overall intersection delay is expected to increase by 1 to 3 seconds with the addition of future traffic volumes, which will be indiscernible from existing intersection operations.

- The eastbound through movements are expected to operate at LOS E during the AM peak period.
- Review of SimTraffic network simulations indicates that the intersections are expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Taft Road

- The intersection is expected to operate in a manner similar to existing and background conditions.

Grand River Avenue & Site Driveways

- The northbound right/left-turn shared movements are expected to operate at LOS E during the AM peak period at both site driveways. However, the review of SimTraffic network simulations indicates a 95th percentile queue length of 35 feet and 38 feet (1-2 vehicles) at the W. Site Drive and E. Site Drive, respectively, which is not significant.

4. Access Management

- The proposed site driveway spacing which meets the City of Novi driveway spacing requirements.

5. Shared Parking Study

- The shared parking analysis shows that there is adequate parking to accommodate the projected peak parking demand for this site.
- A parking lot is typically designed to accommodate 85-95% occupancy, depending on the proposed land use(s), layout, and parking management (self-parking, valet, active parking management, etc.). The peak utilization for this site is within the recommended thresholds.

Proposed Parking Supply	Peak Demand	Peak Utilization	Surplus
154 spaces	135 spaces	88%	19 spaces

11 RECOMMENDATION

- The results of this study indicate that the impact of the proposed development on the adjacent roadway system is minimal and the existing roadway network can adequately accommodate the projected site generated traffic. Therefore, no mitigation measures are recommended.

Appendix A

BACKGROUND INFORMATION

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Exhibit 20-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular controlled movement is a function three (capacity) factors: distribution of gaps in the major-street traffic stream, driver judgment in selecting gaps through which to execute the desired maneuvers, and the follow-up headways required by each driver in a queue.

The basic capacity model assumes gaps in the conflicting movements are randomly distributed. When traffic signals are present on the major street, upstream of the subject intersection, flows may not be random but will likely have some platoon structure. Although the procedures in this chapter provide a method for approximating the operations of a TWSC intersection with an upstream signal, the operations of such an intersection is arguably best handled by including it in a complete simulation

Exhibit 20-2. Level of Service Criteria for Stop-Controlled Intersections (Motor Vehicles)

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. A total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The LOS criteria for TWSC intersections differ somewhat from the criteria used in Chapter 19 for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle. The criteria are given in Exhibit 19-8. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LOS A describes operations with a control delay of 10 s/veh or less. This level is typically assigned when the volume-to-capacity ratio is low and either progression is extremely favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during a green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

Exhibit 19.8. Level-of-Service Criteria for Signalized Intersections (Motorized Vehicles)

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

1. If the v/c ratio for a lane group exceeds 1.0, a LOS F is assigned to the individual lane group. LOS for approach-based and intersection-wide assessments are determined solely by the control delay.

LOS C describes operations with control delay between 20 and 35 s/veh. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e. one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicle stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh. This level is typically assigned when when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh. This level is typically assigned when when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level, considered to be unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of the intersection. This level is typically assigned when the volume-to-capacity ratio is high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual, 6th Edition. Transportation Research Board, National Research Council

Tuesday, 03 March 2020

approach - detector(s)...

EB GR LLT,RLT	17	19		
EB GR L,R	21	22		
NB BECK LT	1			
NB BECK L,R	3	4		
WB GR LT	5			
WB GR L,R,RT	7	8	9	
Approach 9	10	11		
SB BECK L,R,RT	14	15	16	

00:15	EB GR LLT,RLT	3	6	-	9
00:15	EB GR L,R	7	6	-	13
00:15	NB BECK LT	1	-	-	1
00:15	NB BECK L,R	8	10	-	18
00:15	WB GR LT	0	-	-	0
00:15	WB GR L,R,RT	10	12	3	25
00:15	Approach 9	1	3	-	4
00:15	SB BECK L,R,RT	DA	DA	DA	0
00:30	EB GR LLT,RLT	4	9	-	13
00:30	EB GR L,R	5	4	-	9
00:30	NB BECK LT	4	-	-	4
00:30	NB BECK L,R	12	11	-	23
00:30	WB GR LT	2	-	-	2
00:30	WB GR L,R,RT	6	7	7	20
00:30	Approach 9	1	2	-	3
00:30	SB BECK L,R,RT	DA	DA	DA	0
00:45	EB GR LLT,RLT	2	1	-	3
00:45	EB GR L,R	4	5	-	9
00:45	NB BECK LT	1	-	-	1
00:45	NB BECK L,R	7	5	-	12
00:45	WB GR LT	3	-	-	3
00:45	WB GR L,R,RT	6	6	1	13
00:45	Approach 9	29	3	-	32
00:45	SB BECK L,R,RT	DA	DA	DA	0
01:00	EB GR LLT,RLT	4	5	-	9
01:00	EB GR L,R	3	2	-	5
01:00	NB BECK LT	0	-	-	0
01:00	NB BECK L,R	15	9	-	24
01:00	WB GR LT	1	-	-	1
01:00	WB GR L,R,RT	0	0	0	0
01:00	Approach 9	1	1	-	2
01:00	SB BECK L,R,RT	DA	DA	DA	0
01:15	EB GR LLT,RLT	3	6	-	9
01:15	EB GR L,R	4	1	-	5
01:15	NB BECK LT	3	-	-	3
01:15	NB BECK L,R	4	3	-	7
01:15	WB GR LT	0	-	-	0

01:15	WB GR L,R,RT	0	0	1	1
01:15	Approach 9	0	0	-	0
01:15	SB BECK L,R,RT	DA	DA	DA	0
01:30	EB GR LLT,RLT	1	2	-	3
01:30	EB GR L,R	5	2	-	7
01:30	NB BECK LT	2	-	-	2
01:30	NB BECK L,R	9	7	-	16
01:30	WB GR LT	1	-	-	1
01:30	WB GR L,R,RT	0	2	1	3
01:30	Approach 9	0	0	-	0
01:30	SB BECK L,R,RT	DA	DA	DA	0
01:45	EB GR LLT,RLT	3	7	-	10
01:45	EB GR L,R	3	2	-	5
01:45	NB BECK LT	1	-	-	1
01:45	NB BECK L,R	5	4	-	9
01:45	WB GR LT	0	-	-	0
01:45	WB GR L,R,RT	3	5	2	10
01:45	Approach 9	0	1	-	1
01:45	SB BECK L,R,RT	DA	DA	DA	0
02:00	EB GR LLT,RLT	0	4	-	4
02:00	EB GR L,R	3	3	-	6
02:00	NB BECK LT	2	-	-	2
02:00	NB BECK L,R	3	3	-	6
02:00	WB GR LT	0	-	-	0
02:00	WB GR L,R,RT	0	1	2	3
02:00	Approach 9	0	0	-	0
02:00	SB BECK L,R,RT	DA	DA	DA	0
02:15	EB GR LLT,RLT	6	1	-	7
02:15	EB GR L,R	3	1	-	4
02:15	NB BECK LT	1	-	-	1
02:15	NB BECK L,R	8	4	-	12
02:15	WB GR LT	0	-	-	0
02:15	WB GR L,R,RT	2	1	3	6
02:15	Approach 9	0	1	-	1
02:15	SB BECK L,R,RT	DA	DA	DA	0
02:30	EB GR LLT,RLT	2	0	-	2
02:30	EB GR L,R	4	2	-	6
02:30	NB BECK LT	2	-	-	2
02:30	NB BECK L,R	7	2	-	9
02:30	WB GR LT	0	-	-	0
02:30	WB GR L,R,RT	1	1	1	3
02:30	Approach 9	0	0	-	0
02:30	SB BECK L,R,RT	DA	DA	DA	0
02:45	EB GR LLT,RLT	0	0	-	0
02:45	EB GR L,R	5	4	-	9
02:45	NB BECK LT	0	-	-	0
02:45	NB BECK L,R	3	2	-	5
02:45	WB GR LT	0	-	-	0
02:45	WB GR L,R,RT	3	0	1	4
02:45	Approach 9	0	1	-	1

02:45	SB BECK L,R,RT	DA	DA	DA	0
03:00	EB GR LLT,RLT	0	1	-	1
03:00	EB GR L,R	1	1	-	2
03:00	NB BECK LT	0	-	-	0
03:00	NB BECK L,R	4	3	-	7
03:00	WB GR LT	0	-	-	0
03:00	WB GR L,R,RT	0	0	0	0
03:00	Approach 9	2	4	-	6
03:00	SB BECK L,R,RT	DA	DA	DA	0
03:15	EB GR LLT,RLT	0	0	-	0
03:15	EB GR L,R	1	2	-	3
03:15	NB BECK LT	0	-	-	0
03:15	NB BECK L,R	9	7	-	16
03:15	WB GR LT	0	-	-	0
03:15	WB GR L,R,RT	2	7	5	14
03:15	Approach 9	0	0	-	0
03:15	SB BECK L,R,RT	DA	DA	DA	0
03:30	EB GR LLT,RLT	1	2	-	3
03:30	EB GR L,R	0	0	-	0
03:30	NB BECK LT	1	-	-	1
03:30	NB BECK L,R	6	5	-	11
03:30	WB GR LT	0	-	-	0
03:30	WB GR L,R,RT	1	1	0	2
03:30	Approach 9	0	0	-	0
03:30	SB BECK L,R,RT	DA	DA	DA	0
03:45	EB GR LLT,RLT	1	1	-	2
03:45	EB GR L,R	3	1	-	4
03:45	NB BECK LT	0	-	-	0
03:45	NB BECK L,R	8	9	-	17
03:45	WB GR LT	0	-	-	0
03:45	WB GR L,R,RT	0	3	2	5
03:45	Approach 9	0	0	-	0
03:45	SB BECK L,R,RT	DA	DA	DA	0
04:00	EB GR LLT,RLT	2	2	-	4
04:00	EB GR L,R	2	1	-	3
04:00	NB BECK LT	1	-	-	1
04:00	NB BECK L,R	10	10	-	20
04:00	WB GR LT	0	-	-	0
04:00	WB GR L,R,RT	4	7	2	13
04:00	Approach 9	1	4	-	5
04:00	SB BECK L,R,RT	DA	DA	DA	0
04:15	EB GR LLT,RLT	3	5	-	8
04:15	EB GR L,R	5	4	-	9
04:15	NB BECK LT	5	-	-	5
04:15	NB BECK L,R	10	7	-	17
04:15	WB GR LT	3	-	-	3
04:15	WB GR L,R,RT	1	2	1	4
04:15	Approach 9	1	1	-	2
04:15	SB BECK L,R,RT	DA	DA	DA	0
04:30	EB GR LLT,RLT	0	0	-	0

04:30	EB GR L,R	8	2	-	10
04:30	NB BECK LT	0	-	-	0
04:30	NB BECK L,R	15	11	-	26
04:30	WB GR LT	0	-	-	0
04:30	WB GR L,R,RT	5	7	5	17
04:30	Approach 9	5	6	-	11
04:30	SB BECK L,R,RT	DA	DA	DA	0
04:45	EB GR LLT,RLT	5	5	-	10
04:45	EB GR L,R	9	2	-	11
04:45	NB BECK LT	5	-	-	5
04:45	NB BECK L,R	16	13	-	29
04:45	WB GR LT	0	-	-	0
04:45	WB GR L,R,RT	4	7	2	13
04:45	Approach 9	4	7	-	11
04:45	SB BECK L,R,RT	DA	DA	DA	0
05:00	EB GR LLT,RLT	3	8	-	11
05:00	EB GR L,R	4	10	-	14
05:00	NB BECK LT	1	-	-	1
05:00	NB BECK L,R	20	15	-	35
05:00	WB GR LT	3	-	-	3
05:00	WB GR L,R,RT	6	9	6	21
05:00	Approach 9	6	19	-	25
05:00	SB BECK L,R,RT	DA	DA	DA	0
05:15	EB GR LLT,RLT	7	13	-	20
05:15	EB GR L,R	16	13	-	29
05:15	NB BECK LT	3	-	-	3
05:15	NB BECK L,R	13	13	-	26
05:15	WB GR LT	6	-	-	6
05:15	WB GR L,R,RT	13	9	3	25
05:15	Approach 9	21	22	-	43
05:15	SB BECK L,R,RT	DA	DA	DA	0
05:30	EB GR LLT,RLT	5	12	-	17
05:30	EB GR L,R	20	8	-	28
05:30	NB BECK LT	2	-	-	2
05:30	NB BECK L,R	26	24	-	50
05:30	WB GR LT	6	-	-	6
05:30	WB GR L,R,RT	16	15	5	36
05:30	Approach 9	7	14	-	21
05:30	SB BECK L,R,RT	DA	DA	DA	0
05:45	EB GR LLT,RLT	10	15	-	25
05:45	EB GR L,R	20	22	-	42
05:45	NB BECK LT	9	-	-	9
05:45	NB BECK L,R	33	35	-	68
05:45	WB GR LT	8	-	-	8
05:45	WB GR L,R,RT	11	19	12	42
05:45	Approach 9	20	25	-	45
05:45	SB BECK L,R,RT	DA	DA	DA	0
06:00	EB GR LLT,RLT	10	12	-	22
06:00	EB GR L,R	18	25	-	43
06:00	NB BECK LT	17	-	-	17

06:00	NB BECK L,R	43	49	-	92
06:00	WB GR LT	8	-	-	8
06:00	WB GR L,R,RT	10	15	16	41
06:00	Approach 9	23	38	-	61
06:00	SB BECK L,R,RT	DA	DA	DA	0
06:15	EB GR LLT,RLT	7	23	-	30
06:15	EB GR L,R	40	33	-	73
06:15	NB BECK LT	7	-	-	7
06:15	NB BECK L,R	34	32	-	66
06:15	WB GR LT	4	-	-	4
06:15	WB GR L,R,RT	12	12	12	36
06:15	Approach 9	21	36	-	57
06:15	SB BECK L,R,RT	DA	DA	DA	0
06:30	EB GR LLT,RLT	19	28	-	47
06:30	EB GR L,R	49	55	-	104
06:30	NB BECK LT	19	-	-	19
06:30	NB BECK L,R	60	63	-	123
06:30	WB GR LT	12	-	-	12
06:30	WB GR L,R,RT	18	25	20	63
06:30	Approach 9	24	47	-	71
06:30	SB BECK L,R,RT	DA	DA	DA	0
06:45	EB GR LLT,RLT	21	46	-	67
06:45	EB GR L,R	58	54	-	112
06:45	NB BECK LT	17	-	-	17
06:45	NB BECK L,R	77	79	-	156
06:45	WB GR LT	10	-	-	10
06:45	WB GR L,R,RT	19	17	17	53
06:45	Approach 9	46	43	-	89
06:45	SB BECK L,R,RT	DA	DA	DA	0
07:00	EB GR LLT,RLT	25	40	-	65
07:00	EB GR L,R	85	83	-	168
07:00	NB BECK LT	10	-	-	10
07:00	NB BECK L,R	68	90	-	158
07:00	WB GR LT	16	-	-	16
07:00	WB GR L,R,RT	14	16	18	48
07:00	Approach 9	58	62	-	120
07:00	SB BECK L,R,RT	DA	DA	DA	0
07:15	EB GR LLT,RLT	9	44	-	53
07:15	EB GR L,R	131	111	-	242
07:15	NB BECK LT	13	-	-	13
07:15	NB BECK L,R	66	88	-	154
07:15	WB GR LT	8	-	-	8
07:15	WB GR L,R,RT	20	18	32	70
07:15	Approach 9	63	72	-	135
07:15	SB BECK L,R,RT	DA	DA	DA	0
07:30	EB GR LLT,RLT	30	48	-	78
07:30	EB GR L,R	142	122	-	264
07:30	NB BECK LT	32	-	-	32
07:30	NB BECK L,R	84	82	-	166
07:30	WB GR LT	16	-	-	16

07:30	WB GR L,R,RT	26	20	54	100
07:30	Approach 9	66	71	-	137
07:30	SB BECK L,R,RT	DA	DA	DA	0
07:45	EB GR LLT,RLT	43	59	-	102
07:45	EB GR L,R	150	149	-	299
07:45	NB BECK LT	26	-	-	26
07:45	NB BECK L,R	78	85	-	163
07:45	WB GR LT	25	-	-	25
07:45	WB GR L,R,RT	31	20	41	92
07:45	Approach 9	68	69	-	137
07:45	SB BECK L,R,RT	DA	DA	DA	0
08:00	EB GR LLT,RLT	43	57	-	100
08:00	EB GR L,R	153	144	-	297
08:00	NB BECK LT	21	-	-	21
08:00	NB BECK L,R	76	77	-	153
08:00	WB GR LT	18	-	-	18
08:00	WB GR L,R,RT	35	29	72	136
08:00	Approach 9	58	64	-	122
08:00	SB BECK L,R,RT	DA	DA	DA	0
08:15	EB GR LLT,RLT	48	64	-	112
08:15	EB GR L,R	146	127	-	273
08:15	NB BECK LT	17	-	-	17
08:15	NB BECK L,R	69	76	-	145
08:15	WB GR LT	22	-	-	22
08:15	WB GR L,R,RT	28	30	58	116
08:15	Approach 9	48	54	-	102
08:15	SB BECK L,R,RT	DA	DA	DA	0
08:30	EB GR LLT,RLT	38	51	-	89
08:30	EB GR L,R	164	121	-	285
08:30	NB BECK LT	38	-	-	38
08:30	NB BECK L,R	81	88	-	169
08:30	WB GR LT	11	-	-	11
08:30	WB GR L,R,RT	27	29	38	94
08:30	Approach 9	53	59	-	112
08:30	SB BECK L,R,RT	DA	DA	DA	0
08:45	EB GR LLT,RLT	36	57	-	93
08:45	EB GR L,R	156	125	-	281
08:45	NB BECK LT	26	-	-	26
08:45	NB BECK L,R	70	82	-	152
08:45	WB GR LT	13	-	-	13
08:45	WB GR L,R,RT	46	42	42	130
08:45	Approach 9	56	65	-	121
08:45	SB BECK L,R,RT	DA	DA	DA	0
09:00	EB GR LLT,RLT	26	54	-	80
09:00	EB GR L,R	140	105	-	245
09:00	NB BECK LT	46	-	-	46
09:00	NB BECK L,R	72	90	-	162
09:00	WB GR LT	20	-	-	20
09:00	WB GR L,R,RT	34	40	40	114
09:00	Approach 9	45	51	-	96

09:00	SB BECK L,R,RT	DA	DA	DA	0
09:15	EB GR LLT,RLT	42	65	-	107
09:15	EB GR L,R	110	100	-	210
09:15	NB BECK LT	32	-	-	32
09:15	NB BECK L,R	80	83	-	163
09:15	WB GR LT	14	-	-	14
09:15	WB GR L,R,RT	42	35	36	113
09:15	Approach 9	48	55	-	103
09:15	SB BECK L,R,RT	DA	DA	DA	0
09:30	EB GR LLT,RLT	38	55	-	93
09:30	EB GR L,R	77	73	-	150
09:30	NB BECK LT	30	-	-	30
09:30	NB BECK L,R	95	86	-	181
09:30	WB GR LT	11	-	-	11
09:30	WB GR L,R,RT	29	37	35	101
09:30	Approach 9	62	69	-	131
09:30	SB BECK L,R,RT	DA	DA	DA	0
09:45	EB GR LLT,RLT	29	58	-	87
09:45	EB GR L,R	72	73	-	145
09:45	NB BECK LT	28	-	-	28
09:45	NB BECK L,R	62	82	-	144
09:45	WB GR LT	13	-	-	13
09:45	WB GR L,R,RT	30	36	33	99
09:45	Approach 9	47	55	-	102
09:45	SB BECK L,R,RT	DA	DA	DA	0
10:00	EB GR LLT,RLT	38	61	-	99
10:00	EB GR L,R	60	60	-	120
10:00	NB BECK LT	29	-	-	29
10:00	NB BECK L,R	53	72	-	125
10:00	WB GR LT	21	-	-	21
10:00	WB GR L,R,RT	32	23	26	81
10:00	Approach 9	35	47	-	82
10:00	SB BECK L,R,RT	DA	DA	DA	0
10:15	EB GR LLT,RLT	33	64	-	97
10:15	EB GR L,R	64	59	-	123
10:15	NB BECK LT	31	-	-	31
10:15	NB BECK L,R	39	55	-	94
10:15	WB GR LT	13	-	-	13
10:15	WB GR L,R,RT	28	38	31	97
10:15	Approach 9	24	38	-	62
10:15	SB BECK L,R,RT	DA	DA	DA	0
10:30	EB GR LLT,RLT	32	58	-	90
10:30	EB GR L,R	49	60	-	109
10:30	NB BECK LT	24	-	-	24
10:30	NB BECK L,R	32	69	-	101
10:30	WB GR LT	11	-	-	11
10:30	WB GR L,R,RT	36	38	35	109
10:30	Approach 9	32	35	-	67
10:30	SB BECK L,R,RT	DA	DA	DA	0
10:45	EB GR LLT,RLT	26	70	-	96

10:45	EB GR L,R	63	64	-	127
10:45	NB BECK LT	33	-	-	33
10:45	NB BECK L,R	62	76	-	138
10:45	WB GR LT	14	-	-	14
10:45	WB GR L,R,RT	24	37	30	91
10:45	Approach 9	26	34	-	60
10:45	SB BECK L,R,RT	DA	DA	DA	0
11:00	EB GR LLT,RLT	42	70	-	112
11:00	EB GR L,R	61	47	-	108
11:00	NB BECK LT	26	-	-	26
11:00	NB BECK L,R	61	60	-	121
11:00	WB GR LT	16	-	-	16
11:00	WB GR L,R,RT	35	45	43	123
11:00	Approach 9	23	33	-	56
11:00	SB BECK L,R,RT	DA	DA	DA	0
11:15	EB GR LLT,RLT	38	72	-	110
11:15	EB GR L,R	68	74	-	142
11:15	NB BECK LT	26	-	-	26
11:15	NB BECK L,R	51	68	-	119
11:15	WB GR LT	14	-	-	14
11:15	WB GR L,R,RT	35	49	33	117
11:15	Approach 9	22	28	-	50
11:15	SB BECK L,R,RT	DA	DA	DA	0
11:30	EB GR LLT,RLT	39	55	-	94
11:30	EB GR L,R	66	62	-	128
11:30	NB BECK LT	37	-	-	37
11:30	NB BECK L,R	46	74	-	120
11:30	WB GR LT	22	-	-	22
11:30	WB GR L,R,RT	51	67	34	152
11:30	Approach 9	30	39	-	69
11:30	SB BECK L,R,RT	DA	DA	DA	0
11:45	EB GR LLT,RLT	45	71	-	116
11:45	EB GR L,R	58	60	-	118
11:45	NB BECK LT	23	-	-	23
11:45	NB BECK L,R	49	63	-	112
11:45	WB GR LT	12	-	-	12
11:45	WB GR L,R,RT	37	62	34	133
11:45	Approach 9	19	34	-	53
11:45	SB BECK L,R,RT	DA	DA	DA	0
12:00	EB GR LLT,RLT	40	68	-	108
12:00	EB GR L,R	66	78	-	144
12:00	NB BECK LT	31	-	-	31
12:00	NB BECK L,R	50	68	-	118
12:00	WB GR LT	7	-	-	7
12:00	WB GR L,R,RT	52	68	47	167
12:00	Approach 9	23	36	-	59
12:00	SB BECK L,R,RT	DA	DA	DA	0
12:15	EB GR LLT,RLT	57	88	-	145
12:15	EB GR L,R	64	91	-	155
12:15	NB BECK LT	30	-	-	30

12:15	NB BECK L,R	47	62	-	109
12:15	WB GR LT	17	-	-	17
12:15	WB GR L,R,RT	36	52	39	127
12:15	Approach 9	26	36	-	62
12:15	SB BECK L,R,RT	DA	DA	DA	0
12:30	EB GR LLT,RLT	55	91	-	146
12:30	EB GR L,R	94	70	-	164
12:30	NB BECK LT	45	-	-	45
12:30	NB BECK L,R	40	68	-	108
12:30	WB GR LT	16	-	-	16
12:30	WB GR L,R,RT	49	63	46	158
12:30	Approach 9	21	35	-	56
12:30	SB BECK L,R,RT	DA	DA	DA	0
12:45	EB GR LLT,RLT	58	84	-	142
12:45	EB GR L,R	81	76	-	157
12:45	NB BECK LT	27	-	-	27
12:45	NB BECK L,R	45	63	-	108
12:45	WB GR LT	20	-	-	20
12:45	WB GR L,R,RT	48	51	46	145
12:45	Approach 9	32	48	-	80
12:45	SB BECK L,R,RT	DA	DA	DA	0
13:00	EB GR LLT,RLT	48	81	-	129
13:00	EB GR L,R	80	62	-	142
13:00	NB BECK LT	35	-	-	35
13:00	NB BECK L,R	53	53	-	106
13:00	WB GR LT	18	-	-	18
13:00	WB GR L,R,RT	53	49	42	144
13:00	Approach 9	21	26	-	47
13:00	SB BECK L,R,RT	DA	DA	DA	0
13:15	EB GR LLT,RLT	36	59	-	95
13:15	EB GR L,R	69	65	-	134
13:15	NB BECK LT	32	-	-	32
13:15	NB BECK L,R	41	60	-	101
13:15	WB GR LT	13	-	-	13
13:15	WB GR L,R,RT	65	76	56	197
13:15	Approach 9	17	29	-	46
13:15	SB BECK L,R,RT	DA	DA	DA	0
13:30	EB GR LLT,RLT	46	80	-	126
13:30	EB GR L,R	67	69	-	136
13:30	NB BECK LT	33	-	-	33
13:30	NB BECK L,R	43	65	-	108
13:30	WB GR LT	17	-	-	17
13:30	WB GR L,R,RT	52	52	49	153
13:30	Approach 9	23	33	-	56
13:30	SB BECK L,R,RT	DA	DA	DA	0
13:45	EB GR LLT,RLT	51	81	-	132
13:45	EB GR L,R	69	78	-	147
13:45	NB BECK LT	32	-	-	32
13:45	NB BECK L,R	46	59	-	105
13:45	WB GR LT	16	-	-	16

13:45	WB GR L,R,RT	46	60	44	150
13:45	Approach 9	18	25	-	43
13:45	SB BECK L,R,RT	DA	DA	DA	0
14:00	EB GR LLT,RLT	44	56	-	100
14:00	EB GR L,R	58	66	-	124
14:00	NB BECK LT	40	-	-	40
14:00	NB BECK L,R	53	61	-	114
14:00	WB GR LT	15	-	-	15
14:00	WB GR L,R,RT	44	62	45	151
14:00	Approach 9	23	38	-	61
14:00	SB BECK L,R,RT	DA	DA	DA	0
14:15	EB GR LLT,RLT	49	80	-	129
14:15	EB GR L,R	57	58	-	115
14:15	NB BECK LT	33	-	-	33
14:15	NB BECK L,R	46	52	-	98
14:15	WB GR LT	25	-	-	25
14:15	WB GR L,R,RT	41	50	62	153
14:15	Approach 9	16	25	-	41
14:15	SB BECK L,R,RT	DA	DA	DA	0
14:30	EB GR LLT,RLT	49	85	-	134
14:30	EB GR L,R	66	68	-	134
14:30	NB BECK LT	32	-	-	32
14:30	NB BECK L,R	57	61	-	118
14:30	WB GR LT	23	-	-	23
14:30	WB GR L,R,RT	48	58	50	156
14:30	Approach 9	12	25	-	37
14:30	SB BECK L,R,RT	DA	DA	DA	0
14:45	EB GR LLT,RLT	50	90	-	140
14:45	EB GR L,R	71	81	-	152
14:45	NB BECK LT	32	-	-	32
14:45	NB BECK L,R	69	74	-	143
14:45	WB GR LT	12	-	-	12
14:45	WB GR L,R,RT	49	43	52	144
14:45	Approach 9	22	25	-	47
14:45	SB BECK L,R,RT	DA	DA	DA	0
15:00	EB GR LLT,RLT	39	88	-	127
15:00	EB GR L,R	53	61	-	114
15:00	NB BECK LT	29	-	-	29
15:00	NB BECK L,R	60	62	-	122
15:00	WB GR LT	22	-	-	22
15:00	WB GR L,R,RT	43	36	62	141
15:00	Approach 9	21	30	-	51
15:00	SB BECK L,R,RT	DA	DA	DA	0
15:15	EB GR LLT,RLT	58	91	-	149
15:15	EB GR L,R	71	65	-	136
15:15	NB BECK LT	32	-	-	32
15:15	NB BECK L,R	70	79	-	149
15:15	WB GR LT	15	-	-	15
15:15	WB GR L,R,RT	50	53	78	181
15:15	Approach 9	14	24	-	38

15:15	SB BECK L,R,RT	DA	DA	DA	0
15:30	EB GR LLT,RLT	46	91	-	137
15:30	EB GR L,R	63	71	-	134
15:30	NB BECK LT	30	-	-	30
15:30	NB BECK L,R	76	76	-	152
15:30	WB GR LT	18	-	-	18
15:30	WB GR L,R,RT	53	49	69	171
15:30	Approach 9	15	29	-	44
15:30	SB BECK L,R,RT	DA	DA	DA	0
15:45	EB GR LLT,RLT	55	93	-	148
15:45	EB GR L,R	66	68	-	134
15:45	NB BECK LT	36	-	-	36
15:45	NB BECK L,R	87	86	-	173
15:45	WB GR LT	20	-	-	20
15:45	WB GR L,R,RT	45	54	97	196
15:45	Approach 9	22	31	-	53
15:45	SB BECK L,R,RT	DA	DA	DA	0
16:00	EB GR LLT,RLT	52	91	-	143
16:00	EB GR L,R	55	71	-	126
16:00	NB BECK LT	35	-	-	35
16:00	NB BECK L,R	98	77	-	175
16:00	WB GR LT	16	-	-	16
16:00	WB GR L,R,RT	61	58	65	184
16:00	Approach 9	10	19	-	29
16:00	SB BECK L,R,RT	DA	DA	DA	0
16:15	EB GR LLT,RLT	47	99	-	146
16:15	EB GR L,R	52	60	-	112
16:15	NB BECK LT	42	-	-	42
16:15	NB BECK L,R	85	70	-	155
16:15	WB GR LT	25	-	-	25
16:15	WB GR L,R,RT	76	65	83	224
16:15	Approach 9	17	29	-	46
16:15	SB BECK L,R,RT	DA	DA	DA	0
16:30	EB GR LLT,RLT	57	88	-	145
16:30	EB GR L,R	53	64	-	117
16:30	NB BECK LT	42	-	-	42
16:30	NB BECK L,R	79	85	-	164
16:30	WB GR LT	31	-	-	31
16:30	WB GR L,R,RT	84	79	104	267
16:30	Approach 9	13	22	-	35
16:30	SB BECK L,R,RT	DA	DA	DA	0
16:45	EB GR LLT,RLT	50	104	-	154
16:45	EB GR L,R	64	64	-	128
16:45	NB BECK LT	51	-	-	51
16:45	NB BECK L,R	82	67	-	149
16:45	WB GR LT	25	-	-	25
16:45	WB GR L,R,RT	69	66	102	237
16:45	Approach 9	17	30	-	47
16:45	SB BECK L,R,RT	DA	DA	DA	0
17:00	EB GR LLT,RLT	52	89	-	141

17:00	EB GR L,R	54	63	-	117
17:00	NB BECK LT	49	-	-	49
17:00	NB BECK L,R	91	66	-	157
17:00	WB GR LT	25	-	-	25
17:00	WB GR L,R,RT	90	73	111	274
17:00	Approach 9	16	30	-	46
17:00	SB BECK L,R,RT	DA	DA	DA	0
17:15	EB GR LLT,RLT	46	88	-	134
17:15	EB GR L,R	67	67	-	134
17:15	NB BECK LT	37	-	-	37
17:15	NB BECK L,R	80	66	-	146
17:15	WB GR LT	24	-	-	24
17:15	WB GR L,R,RT	84	74	110	268
17:15	Approach 9	10	22	-	32
17:15	SB BECK L,R,RT	DA	DA	DA	0
17:30	EB GR LLT,RLT	54	70	-	124
17:30	EB GR L,R	68	74	-	142
17:30	NB BECK LT	39	-	-	39
17:30	NB BECK L,R	86	78	-	164
17:30	WB GR LT	22	-	-	22
17:30	WB GR L,R,RT	108	83	165	356
17:30	Approach 9	23	30	-	53
17:30	SB BECK L,R,RT	DA	DA	DA	0
17:45	EB GR LLT,RLT	45	73	-	118
17:45	EB GR L,R	67	64	-	131
17:45	NB BECK LT	44	-	-	44
17:45	NB BECK L,R	84	64	-	148
17:45	WB GR LT	34	-	-	34
17:45	WB GR L,R,RT	101	91	117	309
17:45	Approach 9	19	25	-	44
17:45	SB BECK L,R,RT	DA	DA	DA	0
18:00	EB GR LLT,RLT	42	64	-	106
18:00	EB GR L,R	47	60	-	107
18:00	NB BECK LT	34	-	-	34
18:00	NB BECK L,R	95	86	-	181
18:00	WB GR LT	31	-	-	31
18:00	WB GR L,R,RT	70	67	73	210
18:00	Approach 9	20	28	-	48
18:00	SB BECK L,R,RT	DA	DA	DA	0
18:15	EB GR LLT,RLT	40	64	-	104
18:15	EB GR L,R	58	64	-	122
18:15	NB BECK LT	34	-	-	34
18:15	NB BECK L,R	79	73	-	152
18:15	WB GR LT	19	-	-	19
18:15	WB GR L,R,RT	64	61	68	193
18:15	Approach 9	13	24	-	37
18:15	SB BECK L,R,RT	DA	DA	DA	0
18:30	EB GR LLT,RLT	24	66	-	90
18:30	EB GR L,R	51	55	-	106
18:30	NB BECK LT	33	-	-	33

18:30	NB BECK L,R	78	62	-	140
18:30	WB GR LT	22	-	-	22
18:30	WB GR L,R,RT	63	65	41	169
18:30	Approach 9	15	24	-	39
18:30	SB BECK L,R,RT	DA	DA	DA	0
18:45	EB GR LLT,RLT	40	62	-	102
18:45	EB GR L,R	41	47	-	88
18:45	NB BECK LT	34	-	-	34
18:45	NB BECK L,R	84	88	-	172
18:45	WB GR LT	25	-	-	25
18:45	WB GR L,R,RT	35	45	40	120
18:45	Approach 9	15	19	-	34
18:45	SB BECK L,R,RT	DA	DA	DA	0
19:00	EB GR LLT,RLT	29	46	-	75
19:00	EB GR L,R	38	48	-	86
19:00	NB BECK LT	31	-	-	31
19:00	NB BECK L,R	76	140	-	216
19:00	WB GR LT	27	-	-	27
19:00	WB GR L,R,RT	34	50	49	133
19:00	Approach 9	22	42	-	64
19:00	SB BECK L,R,RT	DA	DA	DA	0
19:15	EB GR LLT,RLT	29	42	-	71
19:15	EB GR L,R	44	61	-	105
19:15	NB BECK LT	34	-	-	34
19:15	NB BECK L,R	59	106	-	165
19:15	WB GR LT	7	-	-	7
19:15	WB GR L,R,RT	31	53	42	126
19:15	Approach 9	14	25	-	39
19:15	SB BECK L,R,RT	DA	DA	DA	0
19:30	EB GR LLT,RLT	35	61	-	96
19:30	EB GR L,R	52	78	-	130
19:30	NB BECK LT	46	-	-	46
19:30	NB BECK L,R	61	96	-	157
19:30	WB GR LT	13	-	-	13
19:30	WB GR L,R,RT	32	35	45	112
19:30	Approach 9	9	16	-	25
19:30	SB BECK L,R,RT	DA	DA	DA	0
19:45	EB GR LLT,RLT	33	54	-	87
19:45	EB GR L,R	37	60	-	97
19:45	NB BECK LT	31	-	-	31
19:45	NB BECK L,R	46	122	-	168
19:45	WB GR LT	12	-	-	12
19:45	WB GR L,R,RT	33	48	44	125
19:45	Approach 9	23	20	-	43
19:45	SB BECK L,R,RT	DA	DA	DA	0
20:00	EB GR LLT,RLT	36	33	-	69
20:00	EB GR L,R	49	56	-	105
20:00	NB BECK LT	24	-	-	24
20:00	NB BECK L,R	42	88	-	130
20:00	WB GR LT	6	-	-	6

20:00	WB GR L,R,RT	38	56	42	136
20:00	Approach 9	22	40	-	62
20:00	SB BECK L,R,RT	DA	DA	DA	0
20:15	EB GR LLT,RLT	35	32	-	67
20:15	EB GR L,R	47	46	-	93
20:15	NB BECK LT	18	-	-	18
20:15	NB BECK L,R	54	67	-	121
20:15	WB GR LT	5	-	-	5
20:15	WB GR L,R,RT	40	47	46	133
20:15	Approach 9	12	31	-	43
20:15	SB BECK L,R,RT	DA	DA	DA	0
20:30	EB GR LLT,RLT	21	36	-	57
20:30	EB GR L,R	43	39	-	82
20:30	NB BECK LT	26	-	-	26
20:30	NB BECK L,R	35	38	-	73
20:30	WB GR LT	9	-	-	9
20:30	WB GR L,R,RT	25	29	27	81
20:30	Approach 9	10	24	-	34
20:30	SB BECK L,R,RT	DA	DA	DA	0
20:45	EB GR LLT,RLT	31	32	-	63
20:45	EB GR L,R	33	45	-	78
20:45	NB BECK LT	21	-	-	21
20:45	NB BECK L,R	35	38	-	73
20:45	WB GR LT	11	-	-	11
20:45	WB GR L,R,RT	23	50	52	125
20:45	Approach 9	5	12	-	17
20:45	SB BECK L,R,RT	DA	DA	DA	0
21:00	EB GR LLT,RLT	31	39	-	70
21:00	EB GR L,R	35	35	-	70
21:00	NB BECK LT	20	-	-	20
21:00	NB BECK L,R	40	52	-	92
21:00	WB GR LT	9	-	-	9
21:00	WB GR L,R,RT	15	32	39	86
21:00	Approach 9	4	6	-	10
21:00	SB BECK L,R,RT	DA	DA	DA	0
21:15	EB GR LLT,RLT	23	35	-	58
21:15	EB GR L,R	31	20	-	51
21:15	NB BECK LT	9	-	-	9
21:15	NB BECK L,R	36	70	-	106
21:15	WB GR LT	11	-	-	11
21:15	WB GR L,R,RT	22	37	50	109
21:15	Approach 9	6	16	-	22
21:15	SB BECK L,R,RT	DA	DA	DA	0
21:30	EB GR LLT,RLT	14	25	-	39
21:30	EB GR L,R	24	29	-	53
21:30	NB BECK LT	20	-	-	20
21:30	NB BECK L,R	33	70	-	103
21:30	WB GR LT	6	-	-	6
21:30	WB GR L,R,RT	29	31	25	85
21:30	Approach 9	6	14	-	20

21:30	SB BECK L,R,RT	DA	DA	DA	0
21:45	EB GR LLT,RLT	12	26	-	38
21:45	EB GR L,R	18	18	-	36
21:45	NB BECK LT	11	-	-	11
21:45	NB BECK L,R	33	60	-	93
21:45	WB GR LT	12	-	-	12
21:45	WB GR L,R,RT	18	28	18	64
21:45	Approach 9	3	8	-	11
21:45	SB BECK L,R,RT	DA	DA	DA	0
22:00	EB GR LLT,RLT	12	19	-	31
22:00	EB GR L,R	24	19	-	43
22:00	NB BECK LT	13	-	-	13
22:00	NB BECK L,R	25	31	-	56
22:00	WB GR LT	2	-	-	2
22:00	WB GR L,R,RT	12	19	16	47
22:00	Approach 9	8	10	-	18
22:00	SB BECK L,R,RT	DA	DA	DA	0
22:15	EB GR LLT,RLT	3	18	-	21
22:15	EB GR L,R	20	17	-	37
22:15	NB BECK LT	4	-	-	4
22:15	NB BECK L,R	21	18	-	39
22:15	WB GR LT	6	-	-	6
22:15	WB GR L,R,RT	8	15	9	32
22:15	Approach 9	6	10	-	16
22:15	SB BECK L,R,RT	DA	DA	DA	0
22:30	EB GR LLT,RLT	9	19	-	28
22:30	EB GR L,R	19	16	-	35
22:30	NB BECK LT	12	-	-	12
22:30	NB BECK L,R	15	20	-	35
22:30	WB GR LT	3	-	-	3
22:30	WB GR L,R,RT	9	23	17	49
22:30	Approach 9	2	8	-	10
22:30	SB BECK L,R,RT	DA	DA	DA	0
22:45	EB GR LLT,RLT	5	13	-	18
22:45	EB GR L,R	9	15	-	24
22:45	NB BECK LT	7	-	-	7
22:45	NB BECK L,R	17	21	-	38
22:45	WB GR LT	0	-	-	0
22:45	WB GR L,R,RT	8	13	14	35
22:45	Approach 9	0	4	-	4
22:45	SB BECK L,R,RT	DA	DA	DA	0
23:00	EB GR LLT,RLT	7	13	-	20
23:00	EB GR L,R	7	3	-	10
23:00	NB BECK LT	7	-	-	7
23:00	NB BECK L,R	20	40	-	60
23:00	WB GR LT	0	-	-	0
23:00	WB GR L,R,RT	5	12	9	26
23:00	Approach 9	2	2	-	4
23:00	SB BECK L,R,RT	DA	DA	DA	0
23:15	EB GR LLT,RLT	8	5	-	13

23:15	EB GR L,R	10	9	-	19
23:15	NB BECK LT	3	-	-	3
23:15	NB BECK L,R	20	40	-	60
23:15	WB GR LT	2	-	-	2
23:15	WB GR L,R,RT	10	21	17	48
23:15	Approach 9	4	5	-	9
23:15	SB BECK L,R,RT	DA	DA	DA	0
23:30	EB GR LLT,RLT	4	5	-	9
23:30	EB GR L,R	4	3	-	7
23:30	NB BECK LT	3	-	-	3
23:30	NB BECK L,R	25	43	-	68
23:30	WB GR LT	2	-	-	2
23:30	WB GR L,R,RT	8	8	9	25
23:30	Approach 9	1	2	-	3
23:30	SB BECK L,R,RT	DA	DA	DA	0
23:45	EB GR LLT,RLT	4	14	-	18
23:45	EB GR L,R	23	5	-	28
23:45	NB BECK LT	6	-	-	6
23:45	NB BECK L,R	25	45	-	70
23:45	WB GR LT	0	-	-	0
23:45	WB GR L,R,RT	3	5	8	16
23:45	Approach 9	2	5	-	7
23:45	SB BECK L,R,RT	DA	DA	DA	0
24:00	EB GR LLT,RLT	6	10	-	16
24:00	EB GR L,R	5	6	-	11
24:00	NB BECK LT	3	-	-	3
24:00	NB BECK L,R	18	37	-	55
24:00	WB GR LT	1	-	-	1
24:00	WB GR L,R,RT	5	10	4	19
24:00	Approach 9	0	0	-	0
24:00	SB BECK L,R,RT	DA	DA	DA	0

EB GR LLT,RLTAM peak	432	10:45 - 11:45	PM peak	600	15:50 - 16:50	Daily Total
6767						
EB GR L,R AM peak	1156	07:40 - 08:40	PM peak	622	12:05 - 13:05	Daily Total
9251						
NB BECK LT AM peak	142	08:15 - 09:15	PM peak	184	16:00 - 17:00	Daily Total
2004						
NB BECK L,R AM peak	659	08:20 - 09:20	PM peak	716	18:25 - 19:25	Daily Total
9553						
WB GR LT AM peak	84	07:20 - 08:20	PM peak	111	17:00 - 18:00	Daily Total
1094						
WB GR L,R,RT AM peak	569	11:00 - 12:00	PM peak	1207	16:45 - 17:45	Daily Total
9546						
Approach 9 AM peak	532	06:55 - 07:55	PM peak	245	12:00 - 13:00	Daily Total
4180						
SB BECK L,R,RTAM peak	0		PM peak	0		Daily Total
0						

On Wednesday, 04 March 2020

EB GR LLT,RLT	17	19		
EB GR L,R	21	22		
NB BECK LT	1			
NB BECK L,R	3	4		
WB GR LT	5			
WB GR L,R,RT	7	8	9	
Approach 9	10	11		
SB BECK L,R,RT	14	15	16	

00:15	EB GR LLT,RLT	4	5	-	9
00:15	EB GR L,R	3	2	-	5
00:15	NB BECK LT	0	-	-	0
00:15	NB BECK L,R	11	18	-	29
00:15	WB GR LT	1	-	-	1
00:15	WB GR L,R,RT	4	6	3	13
00:15	Approach 9	1	5	-	6
00:15	SB BECK L,R,RT	DA	DA	DA	0
00:30	EB GR LLT,RLT	2	2	-	4
00:30	EB GR L,R	4	5	-	9
00:30	NB BECK LT	1	-	-	1
00:30	NB BECK L,R	12	21	-	33
00:30	WB GR LT	0	-	-	0
00:30	WB GR L,R,RT	0	3	1	4
00:30	Approach 9	0	0	-	0
00:30	SB BECK L,R,RT	DA	DA	DA	0
00:45	EB GR LLT,RLT	0	0	-	0
00:45	EB GR L,R	0	0	-	0
00:45	NB BECK LT	0	-	-	0
00:45	NB BECK L,R	10	23	-	33
00:45	WB GR LT	0	-	-	0
00:45	WB GR L,R,RT	0	1	2	3
00:45	Approach 9	7	7	-	14
00:45	SB BECK L,R,RT	DA	DA	DA	0
01:00	EB GR LLT,RLT	1	0	-	1
01:00	EB GR L,R	3	0	-	3
01:00	NB BECK LT	1	-	-	1
01:00	NB BECK L,R	4	35	-	39
01:00	WB GR LT	3	-	-	3
01:00	WB GR L,R,RT	6	6	1	13
01:00	Approach 9	0	0	-	0
01:00	SB BECK L,R,RT	DA	DA	DA	0
01:15	EB GR LLT,RLT	1	3	-	4
01:15	EB GR L,R	3	0	-	3
01:15	NB BECK LT	0	-	-	0
01:15	NB BECK L,R	5	22	-	27
01:15	WB GR LT	0	-	-	0
01:15	WB GR L,R,RT	1	4	4	9
01:15	Approach 9	2	3	-	5
01:15	SB BECK L,R,RT	DA	DA	DA	0
01:30	EB GR LLT,RLT	4	3	-	7

01:30	EB GR L,R	3	2	-	5
01:30	NB BECK LT	0	-	-	0
01:30	NB BECK L,R	8	20	-	28
01:30	WB GR LT	0	-	-	0
01:30	WB GR L,R,RT	0	2	2	4
01:30	Approach 9	2	5	-	7
01:30	SB BECK L,R,RT	DA	DA	DA	0
01:45	EB GR LLT,RLT	8	9	-	17
01:45	EB GR L,R	6	3	-	9
01:45	NB BECK LT	0	-	-	0
01:45	NB BECK L,R	8	19	-	27
01:45	WB GR LT	0	-	-	0
01:45	WB GR L,R,RT	0	2	2	4
01:45	Approach 9	2	3	-	5
01:45	SB BECK L,R,RT	DA	DA	DA	0
02:00	EB GR LLT,RLT	3	8	-	11
02:00	EB GR L,R	5	2	-	7
02:00	NB BECK LT	2	-	-	2
02:00	NB BECK L,R	8	15	-	23
02:00	WB GR LT	0	-	-	0
02:00	WB GR L,R,RT	2	2	3	7
02:00	Approach 9	0	1	-	1
02:00	SB BECK L,R,RT	DA	DA	DA	0
02:15	EB GR LLT,RLT	3	4	-	7
02:15	EB GR L,R	2	2	-	4
02:15	NB BECK LT	1	-	-	1
02:15	NB BECK L,R	5	12	-	17
02:15	WB GR LT	0	-	-	0
02:15	WB GR L,R,RT	1	3	3	7
02:15	Approach 9	0	0	-	0
02:15	SB BECK L,R,RT	DA	DA	DA	0
02:30	EB GR LLT,RLT	1	1	-	2
02:30	EB GR L,R	4	5	-	9
02:30	NB BECK LT	0	-	-	0
02:30	NB BECK L,R	5	34	-	39
02:30	WB GR LT	0	-	-	0
02:30	WB GR L,R,RT	0	2	2	4
02:30	Approach 9	1	2	-	3
02:30	SB BECK L,R,RT	DA	DA	DA	0
02:45	EB GR LLT,RLT	0	2	-	2
02:45	EB GR L,R	5	4	-	9
02:45	NB BECK LT	0	-	-	0
02:45	NB BECK L,R	1	30	-	31
02:45	WB GR LT	1	-	-	1
02:45	WB GR L,R,RT	1	1	4	6
02:45	Approach 9	0	0	-	0
02:45	SB BECK L,R,RT	DA	DA	DA	0
03:00	EB GR LLT,RLT	1	2	-	3
03:00	EB GR L,R	2	0	-	2
03:00	NB BECK LT	1	-	-	1

03:00	NB BECK L,R	0	38	-	38
03:00	WB GR LT	2	-	-	2
03:00	WB GR L,R,RT	0	0	0	0
03:00	Approach 9	3	3	-	6
03:00	SB BECK L,R,RT	DA	DA	DA	0
03:15	EB GR LLT,RLT	0	0	-	0
03:15	EB GR L,R	2	0	-	2
03:15	NB BECK LT	0	-	-	0
03:15	NB BECK L,R	8	56	-	64
03:15	WB GR LT	0	-	-	0
03:15	WB GR L,R,RT	1	6	7	14
03:15	Approach 9	1	2	-	3
03:15	SB BECK L,R,RT	DA	DA	DA	0
03:30	EB GR LLT,RLT	2	1	-	3
03:30	EB GR L,R	0	0	-	0
03:30	NB BECK LT	1	-	-	1
03:30	NB BECK L,R	9	28	-	37
03:30	WB GR LT	0	-	-	0
03:30	WB GR L,R,RT	0	1	5	6
03:30	Approach 9	0	0	-	0
03:30	SB BECK L,R,RT	DA	DA	DA	0
03:45	EB GR LLT,RLT	1	1	-	2
03:45	EB GR L,R	1	1	-	2
03:45	NB BECK LT	0	-	-	0
03:45	NB BECK L,R	2	67	-	69
03:45	WB GR LT	0	-	-	0
03:45	WB GR L,R,RT	3	4	2	9
03:45	Approach 9	5	11	-	16
03:45	SB BECK L,R,RT	DA	DA	DA	0
04:00	EB GR LLT,RLT	2	7	-	9
04:00	EB GR L,R	3	2	-	5
04:00	NB BECK LT	1	-	-	1
04:00	NB BECK L,R	12	13	-	25
04:00	WB GR LT	1	-	-	1
04:00	WB GR L,R,RT	4	5	1	10
04:00	Approach 9	0	0	-	0
04:00	SB BECK L,R,RT	DA	DA	DA	0
04:15	EB GR LLT,RLT	6	8	-	14
04:15	EB GR L,R	5	1	-	6
04:15	NB BECK LT	5	-	-	5
04:15	NB BECK L,R	3	23	-	26
04:15	WB GR LT	0	-	-	0
04:15	WB GR L,R,RT	4	4	3	11
04:15	Approach 9	0	0	-	0
04:15	SB BECK L,R,RT	DA	DA	DA	0
04:30	EB GR LLT,RLT	1	1	-	2
04:30	EB GR L,R	9	5	-	14
04:30	NB BECK LT	3	-	-	3
04:30	NB BECK L,R	11	51	-	62
04:30	WB GR LT	0	-	-	0

04:30	WB GR L,R,RT	7	7	2	16
04:30	Approach 9	1	0	-	1
04:30	SB BECK L,R,RT	DA	DA	DA	0
04:45	EB GR LLT,RLT	2	6	-	8
04:45	EB GR L,R	4	3	-	7
04:45	NB BECK LT	0	-	-	0
04:45	NB BECK L,R	14	13	-	27
04:45	WB GR LT	0	-	-	0
04:45	WB GR L,R,RT	11	8	3	22
04:45	Approach 9	4	10	-	14
04:45	SB BECK L,R,RT	DA	DA	DA	0
05:00	EB GR LLT,RLT	2	4	-	6
05:00	EB GR L,R	10	13	-	23
05:00	NB BECK LT	2	-	-	2
05:00	NB BECK L,R	16	15	-	31
05:00	WB GR LT	0	-	-	0
05:00	WB GR L,R,RT	10	12	4	26
05:00	Approach 9	5	8	-	13
05:00	SB BECK L,R,RT	DA	DA	DA	0
05:15	EB GR LLT,RLT	8	5	-	13
05:15	EB GR L,R	12	4	-	16
05:15	NB BECK LT	5	-	-	5
05:15	NB BECK L,R	14	21	-	35
05:15	WB GR LT	4	-	-	4
05:15	WB GR L,R,RT	9	12	1	22
05:15	Approach 9	9	15	-	24
05:15	SB BECK L,R,RT	DA	DA	DA	0
05:30	EB GR LLT,RLT	1	6	-	7
05:30	EB GR L,R	11	10	-	21
05:30	NB BECK LT	3	-	-	3
05:30	NB BECK L,R	32	34	-	66
05:30	WB GR LT	2	-	-	2
05:30	WB GR L,R,RT	8	21	16	45
05:30	Approach 9	20	28	-	48
05:30	SB BECK L,R,RT	DA	DA	DA	0
05:45	EB GR LLT,RLT	5	14	-	19
05:45	EB GR L,R	19	16	-	35
05:45	NB BECK LT	5	-	-	5
05:45	NB BECK L,R	36	36	-	72
05:45	WB GR LT	2	-	-	2
05:45	WB GR L,R,RT	20	20	11	51
05:45	Approach 9	8	20	-	28
05:45	SB BECK L,R,RT	DA	DA	DA	0
06:00	EB GR LLT,RLT	1	11	-	12
06:00	EB GR L,R	22	24	-	46
06:00	NB BECK LT	16	-	-	16
06:00	NB BECK L,R	37	44	-	81
06:00	WB GR LT	4	-	-	4
06:00	WB GR L,R,RT	16	17	4	37
06:00	Approach 9	15	32	-	47

06:00	SB BECK L,R,RT	DA	DA	DA	0
06:15	EB GR LLT,RLT	7	25	-	32
06:15	EB GR L,R	26	28	-	54
06:15	NB BECK LT	3	-	-	3
06:15	NB BECK L,R	35	36	-	71
06:15	WB GR LT	3	-	-	3
06:15	WB GR L,R,RT	11	13	11	35
06:15	Approach 9	16	28	-	44
06:15	SB BECK L,R,RT	DA	DA	DA	0
06:30	EB GR LLT,RLT	19	28	-	47
06:30	EB GR L,R	39	28	-	67
06:30	NB BECK LT	16	-	-	16
06:30	NB BECK L,R	72	60	-	132
06:30	WB GR LT	11	-	-	11
06:30	WB GR L,R,RT	17	16	14	47
06:30	Approach 9	15	80	-	95
06:30	SB BECK L,R,RT	DA	DA	DA	0
06:45	EB GR LLT,RLT	30	47	-	77
06:45	EB GR L,R	56	49	-	105
06:45	NB BECK LT	11	-	-	11
06:45	NB BECK L,R	87	89	-	176
06:45	WB GR LT	14	-	-	14
06:45	WB GR L,R,RT	21	27	26	74
06:45	Approach 9	28	34	-	62
06:45	SB BECK L,R,RT	DA	DA	DA	0
07:00	EB GR LLT,RLT	19	46	-	65
07:00	EB GR L,R	63	61	-	124
07:00	NB BECK LT	11	-	-	11
07:00	NB BECK L,R	80	120	-	200
07:00	WB GR LT	15	-	-	15
07:00	WB GR L,R,RT	17	15	26	58
07:00	Approach 9	36	41	-	77
07:00	SB BECK L,R,RT	DA	DA	DA	0
07:15	EB GR LLT,RLT	11	31	-	42
07:15	EB GR L,R	66	53	-	119
07:15	NB BECK LT	18	-	-	18
07:15	NB BECK L,R	75	128	-	203
07:15	WB GR LT	12	-	-	12
07:15	WB GR L,R,RT	12	19	23	54
07:15	Approach 9	47	56	-	103
07:15	SB BECK L,R,RT	DA	DA	DA	0
07:30	EB GR LLT,RLT	20	59	-	79
07:30	EB GR L,R	88	81	-	169
07:30	NB BECK LT	17	-	-	17
07:30	NB BECK L,R	81	113	-	194
07:30	WB GR LT	13	-	-	13
07:30	WB GR L,R,RT	23	23	50	96
07:30	Approach 9	43	50	-	93
07:30	SB BECK L,R,RT	DA	DA	DA	0
07:45	EB GR LLT,RLT	46	73	-	119

07:45	EB GR L,R	99	88	-	187
07:45	NB BECK LT	29	-	-	29
07:45	NB BECK L,R	73	103	-	176
07:45	WB GR LT	21	-	-	21
07:45	WB GR L,R,RT	18	23	41	82
07:45	Approach 9	44	52	-	96
07:45	SB BECK L,R,RT	DA	DA	DA	0
08:00	EB GR LLT,RLT	54	78	-	132
08:00	EB GR L,R	79	76	-	155
08:00	NB BECK LT	14	-	-	14
08:00	NB BECK L,R	87	93	-	180
08:00	WB GR LT	16	-	-	16
08:00	WB GR L,R,RT	27	25	61	113
08:00	Approach 9	42	53	-	95
08:00	SB BECK L,R,RT	DA	DA	DA	0
08:15	EB GR LLT,RLT	32	74	-	106
08:15	EB GR L,R	81	70	-	151
08:15	NB BECK LT	21	-	-	21
08:15	NB BECK L,R	86	93	-	179
08:15	WB GR LT	16	-	-	16
08:15	WB GR L,R,RT	34	34	35	103
08:15	Approach 9	43	41	-	84
08:15	SB BECK L,R,RT	DA	DA	DA	0
08:30	EB GR LLT,RLT	35	58	-	93
08:30	EB GR L,R	84	60	-	144
08:30	NB BECK LT	28	-	-	28
08:30	NB BECK L,R	100	105	-	205
08:30	WB GR LT	8	-	-	8
08:30	WB GR L,R,RT	24	21	33	78
08:30	Approach 9	42	46	-	88
08:30	SB BECK L,R,RT	DA	DA	DA	0
08:45	EB GR LLT,RLT	39	65	-	104
08:45	EB GR L,R	91	70	-	161
08:45	NB BECK LT	33	-	-	33
08:45	NB BECK L,R	78	93	-	171
08:45	WB GR LT	9	-	-	9
08:45	WB GR L,R,RT	25	28	38	91
08:45	Approach 9	48	62	-	110
08:45	SB BECK L,R,RT	DA	DA	DA	0
09:00	EB GR LLT,RLT	42	58	-	100
09:00	EB GR L,R	64	68	-	132
09:00	NB BECK LT	35	-	-	35
09:00	NB BECK L,R	77	98	-	175
09:00	WB GR LT	19	-	-	19
09:00	WB GR L,R,RT	38	30	24	92
09:00	Approach 9	50	64	-	114
09:00	SB BECK L,R,RT	DA	DA	DA	0
09:15	EB GR LLT,RLT	37	67	-	104
09:15	EB GR L,R	60	53	-	113
09:15	NB BECK LT	22	-	-	22

09:15	NB BECK L,R	68	97	-	165
09:15	WB GR LT	14	-	-	14
09:15	WB GR L,R,RT	31	33	41	105
09:15	Approach 9	37	51	-	88
09:15	SB BECK L,R,RT	DA	DA	DA	0
09:30	EB GR LLT,RLT	39	69	-	108
09:30	EB GR L,R	59	53	-	112
09:30	NB BECK LT	40	-	-	40
09:30	NB BECK L,R	60	84	-	144
09:30	WB GR LT	15	-	-	15
09:30	WB GR L,R,RT	24	34	30	88
09:30	Approach 9	28	40	-	68
09:30	SB BECK L,R,RT	DA	DA	DA	0
09:45	EB GR LLT,RLT	30	57	-	87
09:45	EB GR L,R	50	64	-	114
09:45	NB BECK LT	14	-	-	14
09:45	NB BECK L,R	42	76	-	118
09:45	WB GR LT	18	-	-	18
09:45	WB GR L,R,RT	32	41	32	105
09:45	Approach 9	23	34	-	57
09:45	SB BECK L,R,RT	DA	DA	DA	0
10:00	EB GR LLT,RLT	31	68	-	99
10:00	EB GR L,R	45	44	-	89
10:00	NB BECK LT	24	-	-	24
10:00	NB BECK L,R	46	59	-	105
10:00	WB GR LT	12	-	-	12
10:00	WB GR L,R,RT	36	24	33	93
10:00	Approach 9	22	36	-	58
10:00	SB BECK L,R,RT	DA	DA	DA	0
10:15	EB GR LLT,RLT	28	67	-	95
10:15	EB GR L,R	54	40	-	94
10:15	NB BECK LT	28	-	-	28
10:15	NB BECK L,R	34	46	-	80
10:15	WB GR LT	8	-	-	8
10:15	WB GR L,R,RT	31	38	26	95
10:15	Approach 9	21	33	-	54
10:15	SB BECK L,R,RT	DA	DA	DA	0
10:30	EB GR LLT,RLT	32	68	-	100
10:30	EB GR L,R	52	50	-	102
10:30	NB BECK LT	29	-	-	29
10:30	NB BECK L,R	59	72	-	131
10:30	WB GR LT	11	-	-	11
10:30	WB GR L,R,RT	39	32	36	107
10:30	Approach 9	25	38	-	63
10:30	SB BECK L,R,RT	DA	DA	DA	0
10:45	EB GR LLT,RLT	29	53	-	82
10:45	EB GR L,R	60	50	-	110
10:45	NB BECK LT	23	-	-	23
10:45	NB BECK L,R	34	61	-	95
10:45	WB GR LT	16	-	-	16

10:45	WB GR L,R,RT	35	37	38	110
10:45	Approach 9	19	35	-	54
10:45	SB BECK L,R,RT	DA	DA	DA	0
11:00	EB GR LLT,RLT	36	70	-	106
11:00	EB GR L,R	53	52	-	105
11:00	NB BECK LT	29	-	-	29
11:00	NB BECK L,R	58	79	-	137
11:00	WB GR LT	13	-	-	13
11:00	WB GR L,R,RT	35	36	35	106
11:00	Approach 9	21	37	-	58
11:00	SB BECK L,R,RT	DA	DA	DA	0
11:15	EB GR LLT,RLT	30	66	-	96
11:15	EB GR L,R	52	54	-	106
11:15	NB BECK LT	29	-	-	29
11:15	NB BECK L,R	60	60	-	120
11:15	WB GR LT	13	-	-	13
11:15	WB GR L,R,RT	39	45	34	118
11:15	Approach 9	25	34	-	59
11:15	SB BECK L,R,RT	DA	DA	DA	0
11:30	EB GR LLT,RLT	36	65	-	101
11:30	EB GR L,R	57	56	-	113
11:30	NB BECK LT	25	-	-	25
11:30	NB BECK L,R	51	60	-	111
11:30	WB GR LT	16	-	-	16
11:30	WB GR L,R,RT	36	48	41	125
11:30	Approach 9	27	43	-	70
11:30	SB BECK L,R,RT	DA	DA	DA	0
11:45	EB GR LLT,RLT	46	84	-	130
11:45	EB GR L,R	52	53	-	105
11:45	NB BECK LT	23	-	-	23
11:45	NB BECK L,R	51	70	-	121
11:45	WB GR LT	25	-	-	25
11:45	WB GR L,R,RT	33	46	47	126
11:45	Approach 9	20	23	-	43
11:45	SB BECK L,R,RT	DA	DA	DA	0
12:00	EB GR LLT,RLT	43	65	-	108
12:00	EB GR L,R	76	75	-	151
12:00	NB BECK LT	36	-	-	36
12:00	NB BECK L,R	44	58	-	102
12:00	WB GR LT	20	-	-	20
12:00	WB GR L,R,RT	42	62	36	140
12:00	Approach 9	26	36	-	62
12:00	SB BECK L,R,RT	DA	DA	DA	0
12:15	EB GR LLT,RLT	47	82	-	129
12:15	EB GR L,R	75	66	-	141
12:15	NB BECK LT	27	-	-	27
12:15	NB BECK L,R	40	57	-	97
12:15	WB GR LT	18	-	-	18
12:15	WB GR L,R,RT	49	71	51	171
12:15	Approach 9	27	35	-	62

12:15	SB BECK L,R,RT	DA	DA	DA	0
12:30	EB GR LLT,RLT	49	59	-	108
12:30	EB GR L,R	74	72	-	146
12:30	NB BECK LT	41	-	-	41
12:30	NB BECK L,R	55	71	-	126
12:30	WB GR LT	12	-	-	12
12:30	WB GR L,R,RT	43	65	54	162
12:30	Approach 9	25	31	-	56
12:30	SB BECK L,R,RT	DA	DA	DA	0
12:45	EB GR LLT,RLT	67	77	-	144
12:45	EB GR L,R	68	84	-	152
12:45	NB BECK LT	30	-	-	30
12:45	NB BECK L,R	54	65	-	119
12:45	WB GR LT	28	-	-	28
12:45	WB GR L,R,RT	39	48	45	132
12:45	Approach 9	29	50	-	79
12:45	SB BECK L,R,RT	DA	DA	DA	0
13:00	EB GR LLT,RLT	59	93	-	152
13:00	EB GR L,R	66	81	-	147
13:00	NB BECK LT	35	-	-	35
13:00	NB BECK L,R	59	64	-	123
13:00	WB GR LT	16	-	-	16
13:00	WB GR L,R,RT	42	56	43	141
13:00	Approach 9	22	32	-	54
13:00	SB BECK L,R,RT	DA	DA	DA	0
13:15	EB GR LLT,RLT	42	68	-	110
13:15	EB GR L,R	62	65	-	127
13:15	NB BECK LT	37	-	-	37
13:15	NB BECK L,R	47	64	-	111
13:15	WB GR LT	15	-	-	15
13:15	WB GR L,R,RT	49	59	48	156
13:15	Approach 9	25	38	-	63
13:15	SB BECK L,R,RT	DA	DA	DA	0
13:30	EB GR LLT,RLT	57	81	-	138
13:30	EB GR L,R	55	61	-	116
13:30	NB BECK LT	25	-	-	25
13:30	NB BECK L,R	44	53	-	97
13:30	WB GR LT	16	-	-	16
13:30	WB GR L,R,RT	54	54	46	154
13:30	Approach 9	20	28	-	48
13:30	SB BECK L,R,RT	DA	DA	DA	0
13:45	EB GR LLT,RLT	45	65	-	110
13:45	EB GR L,R	62	75	-	137
13:45	NB BECK LT	25	-	-	25
13:45	NB BECK L,R	55	66	-	121
13:45	WB GR LT	13	-	-	13
13:45	WB GR L,R,RT	39	50	39	128
13:45	Approach 9	12	33	-	45
13:45	SB BECK L,R,RT	DA	DA	DA	0
14:00	EB GR LLT,RLT	54	84	-	138

14:00	EB GR L,R	66	64	-	130
14:00	NB BECK LT	31	-	-	31
14:00	NB BECK L,R	49	66	-	115
14:00	WB GR LT	9	-	-	9
14:00	WB GR L,R,RT	46	46	38	130
14:00	Approach 9	15	25	-	40
14:00	SB BECK L,R,RT	DA	DA	DA	0
14:15	EB GR LLT,RLT	45	80	-	125
14:15	EB GR L,R	41	62	-	103
14:15	NB BECK LT	41	-	-	41
14:15	NB BECK L,R	62	58	-	120
14:15	WB GR LT	24	-	-	24
14:15	WB GR L,R,RT	52	48	57	157
14:15	Approach 9	19	28	-	47
14:15	SB BECK L,R,RT	DA	DA	DA	0
14:30	EB GR LLT,RLT	37	77	-	114
14:30	EB GR L,R	56	58	-	114
14:30	NB BECK LT	22	-	-	22
14:30	NB BECK L,R	61	57	-	118
14:30	WB GR LT	30	-	-	30
14:30	WB GR L,R,RT	55	53	61	169
14:30	Approach 9	22	35	-	57
14:30	SB BECK L,R,RT	DA	DA	DA	0
14:45	EB GR LLT,RLT	39	81	-	120
14:45	EB GR L,R	51	75	-	126
14:45	NB BECK LT	35	-	-	35
14:45	NB BECK L,R	68	71	-	139
14:45	WB GR LT	23	-	-	23
14:45	WB GR L,R,RT	51	42	77	170
14:45	Approach 9	17	23	-	40
14:45	SB BECK L,R,RT	DA	DA	DA	0
15:00	EB GR LLT,RLT	42	82	-	124
15:00	EB GR L,R	65	77	-	142
15:00	NB BECK LT	33	-	-	33
15:00	NB BECK L,R	59	80	-	139
15:00	WB GR LT	25	-	-	25
15:00	WB GR L,R,RT	47	46	71	164
15:00	Approach 9	19	28	-	47
15:00	SB BECK L,R,RT	DA	DA	DA	0
15:15	EB GR LLT,RLT	51	88	-	139
15:15	EB GR L,R	51	58	-	109
15:15	NB BECK LT	41	-	-	41
15:15	NB BECK L,R	69	88	-	157
15:15	WB GR LT	37	-	-	37
15:15	WB GR L,R,RT	63	48	90	201
15:15	Approach 9	21	29	-	50
15:15	SB BECK L,R,RT	DA	DA	DA	0
15:30	EB GR LLT,RLT	38	82	-	120
15:30	EB GR L,R	63	69	-	132
15:30	NB BECK LT	39	-	-	39

15:30	NB BECK L,R	84	76	-	160
15:30	WB GR LT	31	-	-	31
15:30	WB GR L,R,RT	69	57	110	236
15:30	Approach 9	24	23	-	47
15:30	SB BECK L,R,RT	DA	DA	DA	0
15:45	EB GR LLT,RLT	59	96	-	155
15:45	EB GR L,R	72	68	-	140
15:45	NB BECK LT	34	-	-	34
15:45	NB BECK L,R	89	72	-	161
15:45	WB GR LT	13	-	-	13
15:45	WB GR L,R,RT	54	53	93	200
15:45	Approach 9	19	25	-	44
15:45	SB BECK L,R,RT	DA	DA	DA	0
16:00	EB GR LLT,RLT	49	78	-	127
16:00	EB GR L,R	68	71	-	139
16:00	NB BECK LT	48	-	-	48
16:00	NB BECK L,R	93	64	-	157
16:00	WB GR LT	25	-	-	25
16:00	WB GR L,R,RT	58	47	94	199
16:00	Approach 9	11	15	-	26
16:00	SB BECK L,R,RT	DA	DA	DA	0
16:15	EB GR LLT,RLT	62	99	-	161
16:15	EB GR L,R	53	57	-	110
16:15	NB BECK LT	44	-	-	44
16:15	NB BECK L,R	87	94	-	181
16:15	WB GR LT	16	-	-	16
16:15	WB GR L,R,RT	49	48	49	146
16:15	Approach 9	16	30	-	46
16:15	SB BECK L,R,RT	DA	DA	DA	0
16:30	EB GR LLT,RLT	45	77	-	122
16:30	EB GR L,R	54	68	-	122
16:30	NB BECK LT	41	-	-	41
16:30	NB BECK L,R	80	74	-	154
16:30	WB GR LT	13	-	-	13
16:30	WB GR L,R,RT	80	55	82	217
16:30	Approach 9	19	21	-	40
16:30	SB BECK L,R,RT	DA	DA	DA	0
16:45	EB GR LLT,RLT	45	102	-	147
16:45	EB GR L,R	61	66	-	127
16:45	NB BECK LT	41	-	-	41
16:45	NB BECK L,R	86	76	-	162
16:45	WB GR LT	16	-	-	16
16:45	WB GR L,R,RT	70	66	71	207
16:45	Approach 9	17	22	-	39
16:45	SB BECK L,R,RT	DA	DA	DA	0
17:00	EB GR LLT,RLT	71	91	-	162
17:00	EB GR L,R	54	71	-	125
17:00	NB BECK LT	36	-	-	36
17:00	NB BECK L,R	77	57	-	134
17:00	WB GR LT	21	-	-	21

17:00	WB GR L,R,RT	78	73	67	218
17:00	Approach 9	26	22	-	48
17:00	SB BECK L,R,RT	DA	DA	DA	0
17:15	EB GR LLT,RLT	57	106	-	163
17:15	EB GR L,R	61	77	-	138
17:15	NB BECK LT	42	-	-	42
17:15	NB BECK L,R	92	82	-	174
17:15	WB GR LT	26	-	-	26
17:15	WB GR L,R,RT	88	69	79	236
17:15	Approach 9	46	36	-	82
17:15	SB BECK L,R,RT	DA	DA	DA	0
17:30	EB GR LLT,RLT	89	87	-	176
17:30	EB GR L,R	67	84	-	151
17:30	NB BECK LT	40	-	-	40
17:30	NB BECK L,R	110	88	-	198
17:30	WB GR LT	16	-	-	16
17:30	WB GR L,R,RT	88	64	79	231
17:30	Approach 9	56	88	-	144
17:30	SB BECK L,R,RT	DA	DA	DA	0
17:45	EB GR LLT,RLT	69	84	-	153
17:45	EB GR L,R	52	77	-	129
17:45	NB BECK LT	43	-	-	43
17:45	NB BECK L,R	117	114	-	231
17:45	WB GR LT	25	-	-	25
17:45	WB GR L,R,RT	71	64	76	211
17:45	Approach 9	78	42	-	120
17:45	SB BECK L,R,RT	DA	DA	DA	0
18:00	EB GR LLT,RLT	40	67	-	107
18:00	EB GR L,R	60	68	-	128
18:00	NB BECK LT	36	-	-	36
18:00	NB BECK L,R	94	86	-	180
18:00	WB GR LT	29	-	-	29
18:00	WB GR L,R,RT	58	61	68	187
18:00	Approach 9	50	44	-	94
18:00	SB BECK L,R,RT	DA	DA	DA	0
18:15	EB GR LLT,RLT	27	65	-	92
18:15	EB GR L,R	42	60	-	102
18:15	NB BECK LT	35	-	-	35
18:15	NB BECK L,R	93	84	-	177
18:15	WB GR LT	24	-	-	24
18:15	WB GR L,R,RT	69	59	62	190
18:15	Approach 9	12	17	-	29
18:15	SB BECK L,R,RT	DA	DA	DA	0
18:30	EB GR LLT,RLT	34	59	-	93
18:30	EB GR L,R	44	60	-	104
18:30	NB BECK LT	32	-	-	32
18:30	NB BECK L,R	72	75	-	147
18:30	WB GR LT	15	-	-	15
18:30	WB GR L,R,RT	67	46	57	170
18:30	Approach 9	14	25	-	39

18:30	SB BECK L,R,RT	DA	DA	DA	0
18:45	EB GR LLT,RLT	25	54	-	79
18:45	EB GR L,R	35	45	-	80
18:45	NB BECK LT	26	-	-	26
18:45	NB BECK L,R	75	91	-	166
18:45	WB GR LT	20	-	-	20
18:45	WB GR L,R,RT	44	41	45	130
18:45	Approach 9	9	15	-	24
18:45	SB BECK L,R,RT	DA	DA	DA	0
19:00	EB GR LLT,RLT	36	42	-	78
19:00	EB GR L,R	40	56	-	96
19:00	NB BECK LT	50	-	-	50
19:00	NB BECK L,R	82	79	-	161
19:00	WB GR LT	17	-	-	17
19:00	WB GR L,R,RT	39	43	49	131
19:00	Approach 9	11	25	-	36
19:00	SB BECK L,R,RT	DA	DA	DA	0
19:15	EB GR LLT,RLT	37	46	-	83
19:15	EB GR L,R	53	61	-	114
19:15	NB BECK LT	26	-	-	26
19:15	NB BECK L,R	60	66	-	126
19:15	WB GR LT	10	-	-	10
19:15	WB GR L,R,RT	19	37	32	88
19:15	Approach 9	15	22	-	37
19:15	SB BECK L,R,RT	DA	DA	DA	0
19:30	EB GR LLT,RLT	46	57	-	103
19:30	EB GR L,R	60	69	-	129
19:30	NB BECK LT	38	-	-	38
19:30	NB BECK L,R	52	54	-	106
19:30	WB GR LT	82	-	-	82
19:30	WB GR L,R,RT	42	52	44	138
19:30	Approach 9	19	25	-	44
19:30	SB BECK L,R,RT	DA	DA	DA	0
19:45	EB GR LLT,RLT	40	49	-	89
19:45	EB GR L,R	43	50	-	93
19:45	NB BECK LT	26	-	-	26
19:45	NB BECK L,R	64	69	-	133
19:45	WB GR LT	17	-	-	17
19:45	WB GR L,R,RT	29	49	38	116
19:45	Approach 9	13	24	-	37
19:45	SB BECK L,R,RT	DA	DA	DA	0
20:00	EB GR LLT,RLT	30	42	-	72
20:00	EB GR L,R	44	56	-	100
20:00	NB BECK LT	33	-	-	33
20:00	NB BECK L,R	58	54	-	112
20:00	WB GR LT	19	-	-	19
20:00	WB GR L,R,RT	34	37	34	105
20:00	Approach 9	9	32	-	41
20:00	SB BECK L,R,RT	DA	DA	DA	0
20:15	EB GR LLT,RLT	35	47	-	82

20:15	EB GR L,R	42	60	-	102
20:15	NB BECK LT	26	-	-	26
20:15	NB BECK L,R	44	56	-	100
20:15	WB GR LT	12	-	-	12
20:15	WB GR L,R,RT	26	39	43	108
20:15	Approach 9	6	16	-	22
20:15	SB BECK L,R,RT	DA	DA	DA	0
20:30	EB GR LLT,RLT	23	32	-	55
20:30	EB GR L,R	41	37	-	78
20:30	NB BECK LT	20	-	-	20
20:30	NB BECK L,R	43	44	-	87
20:30	WB GR LT	10	-	-	10
20:30	WB GR L,R,RT	30	47	47	124
20:30	Approach 9	9	52	-	61
20:30	SB BECK L,R,RT	DA	DA	DA	0
20:45	EB GR LLT,RLT	27	35	-	62
20:45	EB GR L,R	38	48	-	86
20:45	NB BECK LT	18	-	-	18
20:45	NB BECK L,R	32	33	-	65
20:45	WB GR LT	10	-	-	10
20:45	WB GR L,R,RT	27	43	32	102
20:45	Approach 9	13	39	-	52
20:45	SB BECK L,R,RT	DA	DA	DA	0
21:00	EB GR LLT,RLT	30	37	-	67
21:00	EB GR L,R	25	35	-	60
21:00	NB BECK LT	17	-	-	17
21:00	NB BECK L,R	32	40	-	72
21:00	WB GR LT	8	-	-	8
21:00	WB GR L,R,RT	25	49	41	115
21:00	Approach 9	18	27	-	45
21:00	SB BECK L,R,RT	DA	DA	DA	0
21:15	EB GR LLT,RLT	23	34	-	57
21:15	EB GR L,R	25	31	-	56
21:15	NB BECK LT	15	-	-	15
21:15	NB BECK L,R	32	33	-	65
21:15	WB GR LT	10	-	-	10
21:15	WB GR L,R,RT	30	37	29	96
21:15	Approach 9	22	11	-	33
21:15	SB BECK L,R,RT	DA	DA	DA	0
21:30	EB GR LLT,RLT	16	21	-	37
21:30	EB GR L,R	27	17	-	44
21:30	NB BECK LT	13	-	-	13
21:30	NB BECK L,R	36	33	-	69
21:30	WB GR LT	6	-	-	6
21:30	WB GR L,R,RT	14	23	22	59
21:30	Approach 9	8	17	-	25
21:30	SB BECK L,R,RT	DA	DA	DA	0
21:45	EB GR LLT,RLT	20	29	-	49
21:45	EB GR L,R	29	22	-	51
21:45	NB BECK LT	15	-	-	15

21:45	NB BECK L,R	33	27	-	60
21:45	WB GR LT	6	-	-	6
21:45	WB GR L,R,RT	22	22	21	65
21:45	Approach 9	2	9	-	11
21:45	SB BECK L,R,RT	DA	DA	DA	0
22:00	EB GR LLT,RLT	21	27	-	48
22:00	EB GR L,R	24	18	-	42
22:00	NB BECK LT	9	-	-	9
22:00	NB BECK L,R	27	22	-	49
22:00	WB GR LT	6	-	-	6
22:00	WB GR L,R,RT	16	14	13	43
22:00	Approach 9	3	11	-	14
22:00	SB BECK L,R,RT	DA	DA	DA	0
22:15	EB GR LLT,RLT	21	29	-	50
22:15	EB GR L,R	15	19	-	34
22:15	NB BECK LT	3	-	-	3
22:15	NB BECK L,R	31	30	-	61
22:15	WB GR LT	4	-	-	4
22:15	WB GR L,R,RT	14	27	23	64
22:15	Approach 9	4	9	-	13
22:15	SB BECK L,R,RT	DA	DA	DA	0
22:30	EB GR LLT,RLT	10	12	-	22
22:30	EB GR L,R	11	15	-	26
22:30	NB BECK LT	17	-	-	17
22:30	NB BECK L,R	19	21	-	40
22:30	WB GR LT	0	-	-	0
22:30	WB GR L,R,RT	6	17	14	37
22:30	Approach 9	6	11	-	17
22:30	SB BECK L,R,RT	DA	DA	DA	0
22:45	EB GR LLT,RLT	13	16	-	29
22:45	EB GR L,R	16	9	-	25
22:45	NB BECK LT	2	-	-	2
22:45	NB BECK L,R	19	20	-	39
22:45	WB GR LT	14	-	-	14
22:45	WB GR L,R,RT	16	18	18	52
22:45	Approach 9	4	10	-	14
22:45	SB BECK L,R,RT	DA	DA	DA	0
23:00	EB GR LLT,RLT	6	9	-	15
23:00	EB GR L,R	8	8	-	16
23:00	NB BECK LT	2	-	-	2
23:00	NB BECK L,R	23	17	-	40
23:00	WB GR LT	0	-	-	0
23:00	WB GR L,R,RT	8	12	10	30
23:00	Approach 9	3	5	-	8
23:00	SB BECK L,R,RT	DA	DA	DA	0
23:15	EB GR LLT,RLT	18	14	-	32
23:15	EB GR L,R	14	11	-	25
23:15	NB BECK LT	2	-	-	2
23:15	NB BECK L,R	22	16	-	38
23:15	WB GR LT	2	-	-	2

23:15	WB GR L,R,RT	4	13	19	36
23:15	Approach 9	6	12	-	18
23:15	SB BECK L,R,RT	DA	DA	DA	0
23:30	EB GR LLT,RLT	7	11	-	18
23:30	EB GR L,R	5	6	-	11
23:30	NB BECK LT	9	-	-	9
23:30	NB BECK L,R	14	15	-	29
23:30	WB GR LT	3	-	-	3
23:30	WB GR L,R,RT	7	11	14	32
23:30	Approach 9	1	3	-	4
23:30	SB BECK L,R,RT	DA	DA	DA	0
23:45	EB GR LLT,RLT	10	16	-	26
23:45	EB GR L,R	8	7	-	15
23:45	NB BECK LT	1	-	-	1
23:45	NB BECK L,R	21	24	-	45
23:45	WB GR LT	1	-	-	1
23:45	WB GR L,R,RT	3	5	3	11
23:45	Approach 9	1	4	-	5
23:45	SB BECK L,R,RT	DA	DA	DA	0
24:00	EB GR LLT,RLT	2	7	-	9
24:00	EB GR L,R	6	3	-	9
24:00	NB BECK LT	0	-	-	0
24:00	NB BECK L,R	18	17	-	35
24:00	WB GR LT	1	-	-	1
24:00	WB GR L,R,RT	4	10	3	17
24:00	Approach 9	0	1	-	1
24:00	SB BECK L,R,RT	DA	DA	DA	0

EB GR LLT,RLTAM peak	450	07:30 - 08:30	PM peak	675	16:40 - 17:40	Daily Total
6965						
EB GR L,R AM peak	662	07:15 - 08:15	PM peak	595	12:10 - 13:10	Daily Total
7753						
NB BECK LT AM peak	130	08:30 - 09:30	PM peak	174	15:45 - 16:45	Daily Total
1907						
NB BECK L,R AM peak	778	07:05 - 08:05	PM peak	786	17:15 - 18:15	Daily Total
9946						
WB GR LT AM peak	74	11:00 - 12:00	PM peak	138	18:20 - 19:20	Daily Total
1152						
WB GR L,R,RT AM peak	509	11:00 - 12:00	PM peak	897	16:35 - 17:35	Daily Total
8966						
Approach 9 AM peak	400	08:05 - 09:05	PM peak	445	16:55 - 17:55	Daily Total
4084						
SB BECK L,R,RTAM peak	0		PM peak	0		Daily Total
0						

On Thursday, 05 March 2020

EB GR LLT,RLT	17	19
EB GR L,R	21	22
NB BECK LT	1	
NB BECK L,R	3	4

WB GR LT	5		
WB GR L,R,RT	7	8	9
Approach 9	10	11	
SB BECK L,R,RT	14	15	16

00:15	EB GR LLT,RLT	2	13	-	15
00:15	EB GR L,R	6	5	-	11
00:15	NB BECK LT	1	-	-	1
00:15	NB BECK L,R	18	15	-	33
00:15	WB GR LT	3	-	-	3
00:15	WB GR L,R,RT	4	6	5	15
00:15	Approach 9	5	5	-	10
00:15	SB BECK L,R,RT	DA	DA	DA	0
00:30	EB GR LLT,RLT	5	8	-	13
00:30	EB GR L,R	4	2	-	6
00:30	NB BECK LT	1	-	-	1
00:30	NB BECK L,R	13	7	-	20
00:30	WB GR LT	0	-	-	0
00:30	WB GR L,R,RT	3	5	3	11
00:30	Approach 9	4	5	-	9
00:30	SB BECK L,R,RT	DA	DA	DA	0
00:45	EB GR LLT,RLT	6	2	-	8
00:45	EB GR L,R	1	3	-	4
00:45	NB BECK LT	0	-	-	0
00:45	NB BECK L,R	10	7	-	17
00:45	WB GR LT	0	-	-	0
00:45	WB GR L,R,RT	2	3	3	8
00:45	Approach 9	3	7	-	10
00:45	SB BECK L,R,RT	DA	DA	DA	0
01:00	EB GR LLT,RLT	0	3	-	3
01:00	EB GR L,R	2	3	-	5
01:00	NB BECK LT	2	-	-	2
01:00	NB BECK L,R	14	11	-	25
01:00	WB GR LT	0	-	-	0
01:00	WB GR L,R,RT	3	1	1	5
01:00	Approach 9	2	3	-	5
01:00	SB BECK L,R,RT	DA	DA	DA	0
01:15	EB GR LLT,RLT	0	1	-	1
01:15	EB GR L,R	2	3	-	5
01:15	NB BECK LT	1	-	-	1
01:15	NB BECK L,R	8	6	-	14
01:15	WB GR LT	0	-	-	0
01:15	WB GR L,R,RT	1	1	2	4
01:15	Approach 9	1	2	-	3
01:15	SB BECK L,R,RT	DA	DA	DA	0
01:30	EB GR LLT,RLT	3	3	-	6
01:30	EB GR L,R	2	0	-	2
01:30	NB BECK LT	2	-	-	2
01:30	NB BECK L,R	13	11	-	24
01:30	WB GR LT	0	-	-	0

01:30	WB GR L,R,RT	0	2	4	6
01:30	Approach 9	0	0	-	0
01:30	SB BECK L,R,RT	DA	DA	DA	0
01:45	EB GR LLT,RLT	5	6	-	11
01:45	EB GR L,R	2	0	-	2
01:45	NB BECK LT	0	-	-	0
01:45	NB BECK L,R	6	6	-	12
01:45	WB GR LT	0	-	-	0
01:45	WB GR L,R,RT	2	1	4	7
01:45	Approach 9	3	4	-	7
01:45	SB BECK L,R,RT	DA	DA	DA	0
02:00	EB GR LLT,RLT	2	5	-	7
02:00	EB GR L,R	1	2	-	3
02:00	NB BECK LT	0	-	-	0
02:00	NB BECK L,R	8	6	-	14
02:00	WB GR LT	2	-	-	2
02:00	WB GR L,R,RT	3	2	0	5
02:00	Approach 9	0	1	-	1
02:00	SB BECK L,R,RT	DA	DA	DA	0
02:15	EB GR LLT,RLT	3	3	-	6
02:15	EB GR L,R	4	0	-	4
02:15	NB BECK LT	3	-	-	3
02:15	NB BECK L,R	5	4	-	9
02:15	WB GR LT	2	-	-	2
02:15	WB GR L,R,RT	2	2	3	7
02:15	Approach 9	1	1	-	2
02:15	SB BECK L,R,RT	DA	DA	DA	0
02:30	EB GR LLT,RLT	4	4	-	8
02:30	EB GR L,R	1	2	-	3
02:30	NB BECK LT	0	-	-	0
02:30	NB BECK L,R	7	3	-	10
02:30	WB GR LT	1	-	-	1
02:30	WB GR L,R,RT	1	0	0	1
02:30	Approach 9	4	4	-	8
02:30	SB BECK L,R,RT	DA	DA	DA	0
02:45	EB GR LLT,RLT	0	1	-	1
02:45	EB GR L,R	2	5	-	7
02:45	NB BECK LT	1	-	-	1
02:45	NB BECK L,R	6	4	-	10
02:45	WB GR LT	5	-	-	5
02:45	WB GR L,R,RT	2	3	3	8
02:45	Approach 9	0	0	-	0
02:45	SB BECK L,R,RT	DA	DA	DA	0
03:00	EB GR LLT,RLT	3	3	-	6
03:00	EB GR L,R	2	1	-	3
03:00	NB BECK LT	0	-	-	0
03:00	NB BECK L,R	3	4	-	7
03:00	WB GR LT	0	-	-	0
03:00	WB GR L,R,RT	0	0	0	0
03:00	Approach 9	3	7	-	10

03:00	SB BECK L,R,RT	DA	DA	DA	0
03:15	EB GR LLT,RLT	0	1	-	1
03:15	EB GR L,R	3	4	-	7
03:15	NB BECK LT	2	-	-	2
03:15	NB BECK L,R	6	4	-	10
03:15	WB GR LT	0	-	-	0
03:15	WB GR L,R,RT	0	6	9	15
03:15	Approach 9	2	2	-	4
03:15	SB BECK L,R,RT	DA	DA	DA	0
03:30	EB GR LLT,RLT	1	1	-	2
03:30	EB GR L,R	3	1	-	4
03:30	NB BECK LT	1	-	-	1
03:30	NB BECK L,R	10	5	-	15
03:30	WB GR LT	0	-	-	0
03:30	WB GR L,R,RT	2	3	4	9
03:30	Approach 9	2	2	-	4
03:30	SB BECK L,R,RT	DA	DA	DA	0
03:45	EB GR LLT,RLT	3	2	-	5
03:45	EB GR L,R	2	0	-	2
03:45	NB BECK LT	0	-	-	0
03:45	NB BECK L,R	15	9	-	24
03:45	WB GR LT	0	-	-	0
03:45	WB GR L,R,RT	2	2	1	5
03:45	Approach 9	3	3	-	6
03:45	SB BECK L,R,RT	DA	DA	DA	0
04:00	EB GR LLT,RLT	0	0	-	0
04:00	EB GR L,R	1	2	-	3
04:00	NB BECK LT	3	-	-	3
04:00	NB BECK L,R	7	11	-	18
04:00	WB GR LT	0	-	-	0
04:00	WB GR L,R,RT	4	6	2	12
04:00	Approach 9	0	0	-	0
04:00	SB BECK L,R,RT	DA	DA	DA	0
04:15	EB GR LLT,RLT	3	3	-	6
04:15	EB GR L,R	5	0	-	5
04:15	NB BECK LT	6	-	-	6
04:15	NB BECK L,R	6	5	-	11
04:15	WB GR LT	1	-	-	1
04:15	WB GR L,R,RT	1	6	8	15
04:15	Approach 9	0	0	-	0
04:15	SB BECK L,R,RT	DA	DA	DA	0
04:30	EB GR LLT,RLT	4	6	-	10
04:30	EB GR L,R	5	2	-	7
04:30	NB BECK LT	0	-	-	0
04:30	NB BECK L,R	14	9	-	23
04:30	WB GR LT	2	-	-	2
04:30	WB GR L,R,RT	1	5	4	10
04:30	Approach 9	1	3	-	4
04:30	SB BECK L,R,RT	DA	DA	DA	0
04:45	EB GR LLT,RLT	5	2	-	7

04:45	EB GR L,R	8	3	-	11
04:45	NB BECK LT	0	-	-	0
04:45	NB BECK L,R	14	7	-	21
04:45	WB GR LT	4	-	-	4
04:45	WB GR L,R,RT	7	16	6	29
04:45	Approach 9	7	10	-	17
04:45	SB BECK L,R,RT	DA	DA	DA	0
05:00	EB GR LLT,RLT	5	5	-	10
05:00	EB GR L,R	7	10	-	17
05:00	NB BECK LT	1	-	-	1
05:00	NB BECK L,R	15	16	-	31
05:00	WB GR LT	0	-	-	0
05:00	WB GR L,R,RT	9	9	1	19
05:00	Approach 9	9	13	-	22
05:00	SB BECK L,R,RT	DA	DA	DA	0
05:15	EB GR LLT,RLT	6	16	-	22
05:15	EB GR L,R	12	6	-	18
05:15	NB BECK LT	2	-	-	2
05:15	NB BECK L,R	21	18	-	39
05:15	WB GR LT	3	-	-	3
05:15	WB GR L,R,RT	7	11	3	21
05:15	Approach 9	8	14	-	22
05:15	SB BECK L,R,RT	DA	DA	DA	0
05:30	EB GR LLT,RLT	12	7	-	19
05:30	EB GR L,R	14	9	-	23
05:30	NB BECK LT	5	-	-	5
05:30	NB BECK L,R	29	26	-	55
05:30	WB GR LT	3	-	-	3
05:30	WB GR L,R,RT	8	16	12	36
05:30	Approach 9	14	25	-	39
05:30	SB BECK L,R,RT	DA	DA	DA	0
05:45	EB GR LLT,RLT	8	26	-	34
05:45	EB GR L,R	10	15	-	25
05:45	NB BECK LT	5	-	-	5
05:45	NB BECK L,R	32	26	-	58
05:45	WB GR LT	3	-	-	3
05:45	WB GR L,R,RT	14	22	6	42
05:45	Approach 9	12	24	-	36
05:45	SB BECK L,R,RT	DA	DA	DA	0
06:00	EB GR LLT,RLT	7	17	-	24
06:00	EB GR L,R	17	14	-	31
06:00	NB BECK LT	17	-	-	17
06:00	NB BECK L,R	33	27	-	60
06:00	WB GR LT	1	-	-	1
06:00	WB GR L,R,RT	13	16	3	32
06:00	Approach 9	14	31	-	45
06:00	SB BECK L,R,RT	DA	DA	DA	0
06:15	EB GR LLT,RLT	5	12	-	17
06:15	EB GR L,R	16	15	-	31
06:15	NB BECK LT	5	-	-	5

06:15	NB BECK L,R	37	31	-	68
06:15	WB GR LT	5	-	-	5
06:15	WB GR L,R,RT	8	14	15	37
06:15	Approach 9	14	29	-	43
06:15	SB BECK L,R,RT	DA	DA	DA	0
06:30	EB GR LLT,RLT	14	30	-	44
06:30	EB GR L,R	32	24	-	56
06:30	NB BECK LT	9	-	-	9
06:30	NB BECK L,R	46	44	-	90
06:30	WB GR LT	9	-	-	9
06:30	WB GR L,R,RT	25	21	14	60
06:30	Approach 9	32	47	-	79
06:30	SB BECK L,R,RT	DA	DA	DA	0
06:45	EB GR LLT,RLT	34	35	-	69
06:45	EB GR L,R	47	42	-	89
06:45	NB BECK LT	10	-	-	10
06:45	NB BECK L,R	88	86	-	174
06:45	WB GR LT	15	-	-	15
06:45	WB GR L,R,RT	16	13	22	51
06:45	Approach 9	26	60	-	86
06:45	SB BECK L,R,RT	DA	DA	DA	0
07:00	EB GR LLT,RLT	15	44	-	59
07:00	EB GR L,R	55	47	-	102
07:00	NB BECK LT	17	-	-	17
07:00	NB BECK L,R	102	113	-	215
07:00	WB GR LT	21	-	-	21
07:00	WB GR L,R,RT	21	22	20	63
07:00	Approach 9	34	40	-	74
07:00	SB BECK L,R,RT	DA	DA	DA	0
07:15	EB GR LLT,RLT	18	52	-	70
07:15	EB GR L,R	65	59	-	124
07:15	NB BECK LT	10	-	-	10
07:15	NB BECK L,R	98	110	-	208
07:15	WB GR LT	14	-	-	14
07:15	WB GR L,R,RT	20	13	36	69
07:15	Approach 9	47	53	-	100
07:15	SB BECK L,R,RT	DA	DA	DA	0
07:30	EB GR LLT,RLT	26	53	-	79
07:30	EB GR L,R	81	70	-	151
07:30	NB BECK LT	36	-	-	36
07:30	NB BECK L,R	76	120	-	196
07:30	WB GR LT	26	-	-	26
07:30	WB GR L,R,RT	28	16	33	77
07:30	Approach 9	37	43	-	80
07:30	SB BECK L,R,RT	DA	DA	DA	0
07:45	EB GR LLT,RLT	42	74	-	116
07:45	EB GR L,R	115	116	-	231
07:45	NB BECK LT	68	-	-	68
07:45	NB BECK L,R	70	107	-	177
07:45	WB GR LT	17	-	-	17

07:45	WB GR L,R,RT	31	30	42	103
07:45	Approach 9	33	47	-	80
07:45	SB BECK L,R,RT	DA	DA	DA	0
08:00	EB GR LLT,RLT	62	74	-	136
08:00	EB GR L,R	160	105	-	265
08:00	NB BECK LT	84	-	-	84
08:00	NB BECK L,R	80	84	-	164
08:00	WB GR LT	12	-	-	12
08:00	WB GR L,R,RT	18	26	54	98
08:00	Approach 9	48	57	-	105
08:00	SB BECK L,R,RT	DA	DA	DA	0
08:15	EB GR LLT,RLT	64	105	-	169
08:15	EB GR L,R	107	74	-	181
08:15	NB BECK LT	61	-	-	61
08:15	NB BECK L,R	81	111	-	192
08:15	WB GR LT	17	-	-	17
08:15	WB GR L,R,RT	14	17	34	65
08:15	Approach 9	43	44	-	87
08:15	SB BECK L,R,RT	DA	DA	DA	0
08:30	EB GR LLT,RLT	34	65	-	99
08:30	EB GR L,R	85	91	-	176
08:30	NB BECK LT	39	-	-	39
08:30	NB BECK L,R	82	92	-	174
08:30	WB GR LT	15	-	-	15
08:30	WB GR L,R,RT	24	21	27	72
08:30	Approach 9	41	44	-	85
08:30	SB BECK L,R,RT	DA	DA	DA	0
08:45	EB GR LLT,RLT	52	84	-	136
08:45	EB GR L,R	69	63	-	132
08:45	NB BECK LT	30	-	-	30
08:45	NB BECK L,R	72	97	-	169
08:45	WB GR LT	16	-	-	16
08:45	WB GR L,R,RT	23	22	30	75
08:45	Approach 9	42	48	-	90
08:45	SB BECK L,R,RT	DA	DA	DA	0
09:00	EB GR LLT,RLT	34	60	-	94
09:00	EB GR L,R	90	74	-	164
09:00	NB BECK LT	37	-	-	37
09:00	NB BECK L,R	73	92	-	165
09:00	WB GR LT	15	-	-	15
09:00	WB GR L,R,RT	29	25	31	85
09:00	Approach 9	35	44	-	79
09:00	SB BECK L,R,RT	DA	DA	DA	0
09:15	EB GR LLT,RLT	49	81	-	130
09:15	EB GR L,R	67	51	-	118
09:15	NB BECK LT	23	-	-	23
09:15	NB BECK L,R	68	102	-	170
09:15	WB GR LT	14	-	-	14
09:15	WB GR L,R,RT	34	30	33	97
09:15	Approach 9	38	50	-	88

09:15	SB BECK L,R,RT	DA	DA	DA	0
09:30	EB GR LLT,RLT	31	69	-	100
09:30	EB GR L,R	67	55	-	122
09:30	NB BECK LT	30	-	-	30
09:30	NB BECK L,R	57	69	-	126
09:30	WB GR LT	9	-	-	9
09:30	WB GR L,R,RT	21	28	19	68
09:30	Approach 9	24	35	-	59
09:30	SB BECK L,R,RT	DA	DA	DA	0
09:45	EB GR LLT,RLT	31	75	-	106
09:45	EB GR L,R	53	60	-	113
09:45	NB BECK LT	27	-	-	27
09:45	NB BECK L,R	53	70	-	123
09:45	WB GR LT	15	-	-	15
09:45	WB GR L,R,RT	26	27	27	80
09:45	Approach 9	16	30	-	46
09:45	SB BECK L,R,RT	DA	DA	DA	0
10:00	EB GR LLT,RLT	30	67	-	97
10:00	EB GR L,R	46	53	-	99
10:00	NB BECK LT	35	-	-	35
10:00	NB BECK L,R	59	63	-	122
10:00	WB GR LT	14	-	-	14
10:00	WB GR L,R,RT	31	30	18	79
10:00	Approach 9	23	30	-	53
10:00	SB BECK L,R,RT	DA	DA	DA	0
10:15	EB GR LLT,RLT	35	68	-	103
10:15	EB GR L,R	66	55	-	121
10:15	NB BECK LT	28	-	-	28
10:15	NB BECK L,R	34	47	-	81
10:15	WB GR LT	13	-	-	13
10:15	WB GR L,R,RT	34	41	33	108
10:15	Approach 9	21	31	-	52
10:15	SB BECK L,R,RT	DA	DA	DA	0
10:30	EB GR LLT,RLT	27	59	-	86
10:30	EB GR L,R	51	46	-	97
10:30	NB BECK LT	24	-	-	24
10:30	NB BECK L,R	36	66	-	102
10:30	WB GR LT	10	-	-	10
10:30	WB GR L,R,RT	28	38	26	92
10:30	Approach 9	17	29	-	46
10:30	SB BECK L,R,RT	DA	DA	DA	0
10:45	EB GR LLT,RLT	32	42	-	74
10:45	EB GR L,R	48	43	-	91
10:45	NB BECK LT	23	-	-	23
10:45	NB BECK L,R	53	71	-	124
10:45	WB GR LT	16	-	-	16
10:45	WB GR L,R,RT	31	49	19	99
10:45	Approach 9	27	40	-	67
10:45	SB BECK L,R,RT	DA	DA	DA	0
11:00	EB GR LLT,RLT	43	58	-	101

11:00	EB GR L,R	53	50	-	103
11:00	NB BECK LT	41	-	-	41
11:00	NB BECK L,R	52	70	-	122
11:00	WB GR LT	14	-	-	14
11:00	WB GR L,R,RT	36	43	30	109
11:00	Approach 9	11	20	-	31
11:00	SB BECK L,R,RT	DA	DA	DA	0
11:15	EB GR LLT,RLT	43	77	-	120
11:15	EB GR L,R	54	64	-	118
11:15	NB BECK LT	40	-	-	40
11:15	NB BECK L,R	48	54	-	102
11:15	WB GR LT	9	-	-	9
11:15	WB GR L,R,RT	32	53	30	115
11:15	Approach 9	20	24	-	44
11:15	SB BECK L,R,RT	DA	DA	DA	0
11:30	EB GR LLT,RLT	52	84	-	136
11:30	EB GR L,R	51	41	-	92
11:30	NB BECK LT	37	-	-	37
11:30	NB BECK L,R	55	76	-	131
11:30	WB GR LT	11	-	-	11
11:30	WB GR L,R,RT	26	46	31	103
11:30	Approach 9	15	30	-	45
11:30	SB BECK L,R,RT	DA	DA	DA	0
11:45	EB GR LLT,RLT	44	67	-	111
11:45	EB GR L,R	62	59	-	121
11:45	NB BECK LT	29	-	-	29
11:45	NB BECK L,R	45	74	-	119
11:45	WB GR LT	12	-	-	12
11:45	WB GR L,R,RT	41	43	35	119
11:45	Approach 9	15	27	-	42
11:45	SB BECK L,R,RT	DA	DA	DA	0
12:00	EB GR LLT,RLT	60	72	-	132
12:00	EB GR L,R	60	72	-	132
12:00	NB BECK LT	31	-	-	31
12:00	NB BECK L,R	42	52	-	94
12:00	WB GR LT	18	-	-	18
12:00	WB GR L,R,RT	47	50	38	135
12:00	Approach 9	20	36	-	56
12:00	SB BECK L,R,RT	DA	DA	DA	0
12:15	EB GR LLT,RLT	56	86	-	142
12:15	EB GR L,R	75	63	-	138
12:15	NB BECK LT	29	-	-	29
12:15	NB BECK L,R	53	62	-	115
12:15	WB GR LT	8	-	-	8
12:15	WB GR L,R,RT	43	46	47	136
12:15	Approach 9	20	27	-	47
12:15	SB BECK L,R,RT	DA	DA	DA	0
12:30	EB GR LLT,RLT	53	74	-	127
12:30	EB GR L,R	63	71	-	134
12:30	NB BECK LT	40	-	-	40

12:30	NB BECK L,R	58	72	-	130
12:30	WB GR LT	16	-	-	16
12:30	WB GR L,R,RT	55	51	35	141
12:30	Approach 9	19	30	-	49
12:30	SB BECK L,R,RT	DA	DA	DA	0
12:45	EB GR LLT,RLT	56	96	-	152
12:45	EB GR L,R	71	71	-	142
12:45	NB BECK LT	31	-	-	31
12:45	NB BECK L,R	46	59	-	105
12:45	WB GR LT	16	-	-	16
12:45	WB GR L,R,RT	37	45	33	115
12:45	Approach 9	18	28	-	46
12:45	SB BECK L,R,RT	DA	DA	DA	0
13:00	EB GR LLT,RLT	62	76	-	138
13:00	EB GR L,R	72	74	-	146
13:00	NB BECK LT	34	-	-	34
13:00	NB BECK L,R	50	66	-	116
13:00	WB GR LT	20	-	-	20
13:00	WB GR L,R,RT	39	44	30	113
13:00	Approach 9	27	39	-	66
13:00	SB BECK L,R,RT	DA	DA	DA	0
13:15	EB GR LLT,RLT	49	63	-	112
13:15	EB GR L,R	49	56	-	105
13:15	NB BECK LT	40	-	-	40
13:15	NB BECK L,R	60	65	-	125
13:15	WB GR LT	14	-	-	14
13:15	WB GR L,R,RT	54	50	46	150
13:15	Approach 9	19	34	-	53
13:15	SB BECK L,R,RT	DA	DA	DA	0
13:30	EB GR LLT,RLT	57	85	-	142
13:30	EB GR L,R	58	71	-	129
13:30	NB BECK LT	28	-	-	28
13:30	NB BECK L,R	53	71	-	124
13:30	WB GR LT	12	-	-	12
13:30	WB GR L,R,RT	47	50	31	128
13:30	Approach 9	16	27	-	43
13:30	SB BECK L,R,RT	DA	DA	DA	0
13:45	EB GR LLT,RLT	43	73	-	116
13:45	EB GR L,R	73	63	-	136
13:45	NB BECK LT	30	-	-	30
13:45	NB BECK L,R	45	59	-	104
13:45	WB GR LT	17	-	-	17
13:45	WB GR L,R,RT	56	49	39	144
13:45	Approach 9	18	25	-	43
13:45	SB BECK L,R,RT	DA	DA	DA	0
14:00	EB GR LLT,RLT	40	70	-	110
14:00	EB GR L,R	64	67	-	131
14:00	NB BECK LT	39	-	-	39
14:00	NB BECK L,R	50	64	-	114
14:00	WB GR LT	12	-	-	12

14:00	WB GR L,R,RT	49	51	29	129
14:00	Approach 9	15	23	-	38
14:00	SB BECK L,R,RT	DA	DA	DA	0
14:15	EB GR LLT,RLT	52	78	-	130
14:15	EB GR L,R	58	59	-	117
14:15	NB BECK LT	31	-	-	31
14:15	NB BECK L,R	61	80	-	141
14:15	WB GR LT	20	-	-	20
14:15	WB GR L,R,RT	50	43	33	126
14:15	Approach 9	23	36	-	59
14:15	SB BECK L,R,RT	DA	DA	DA	0
14:30	EB GR LLT,RLT	57	85	-	142
14:30	EB GR L,R	64	61	-	125
14:30	NB BECK LT	39	-	-	39
14:30	NB BECK L,R	68	65	-	133
14:30	WB GR LT	21	-	-	21
14:30	WB GR L,R,RT	52	48	53	153
14:30	Approach 9	18	23	-	41
14:30	SB BECK L,R,RT	DA	DA	DA	0
14:45	EB GR LLT,RLT	58	87	-	145
14:45	EB GR L,R	62	62	-	124
14:45	NB BECK LT	45	-	-	45
14:45	NB BECK L,R	71	75	-	146
14:45	WB GR LT	18	-	-	18
14:45	WB GR L,R,RT	41	38	44	123
14:45	Approach 9	12	20	-	32
14:45	SB BECK L,R,RT	DA	DA	DA	0
15:00	EB GR LLT,RLT	43	76	-	119
15:00	EB GR L,R	64	56	-	120
15:00	NB BECK LT	35	-	-	35
15:00	NB BECK L,R	72	72	-	144
15:00	WB GR LT	24	-	-	24
15:00	WB GR L,R,RT	53	31	44	128
15:00	Approach 9	14	19	-	33
15:00	SB BECK L,R,RT	DA	DA	DA	0
15:15	EB GR LLT,RLT	52	79	-	131
15:15	EB GR L,R	55	63	-	118
15:15	NB BECK LT	22	-	-	22
15:15	NB BECK L,R	69	88	-	157
15:15	WB GR LT	18	-	-	18
15:15	WB GR L,R,RT	58	57	59	174
15:15	Approach 9	22	37	-	59
15:15	SB BECK L,R,RT	DA	DA	DA	0
15:30	EB GR LLT,RLT	56	100	-	156
15:30	EB GR L,R	49	66	-	115
15:30	NB BECK LT	41	-	-	41
15:30	NB BECK L,R	71	89	-	160
15:30	WB GR LT	16	-	-	16
15:30	WB GR L,R,RT	58	52	64	174
15:30	Approach 9	15	23	-	38

15:30	SB BECK L,R,RT	DA	DA	DA	0
15:45	EB GR LLT,RLT	60	91	-	151
15:45	EB GR L,R	55	71	-	126
15:45	NB BECK LT	43	-	-	43
15:45	NB BECK L,R	78	82	-	160
15:45	WB GR LT	15	-	-	15
15:45	WB GR L,R,RT	46	51	51	148
15:45	Approach 9	22	38	-	60
15:45	SB BECK L,R,RT	DA	DA	DA	0
16:00	EB GR LLT,RLT	43	79	-	122
16:00	EB GR L,R	45	50	-	95
16:00	NB BECK LT	41	-	-	41
16:00	NB BECK L,R	98	94	-	192
16:00	WB GR LT	14	-	-	14
16:00	WB GR L,R,RT	66	56	62	184
16:00	Approach 9	18	19	-	37
16:00	SB BECK L,R,RT	DA	DA	DA	0
16:15	EB GR LLT,RLT	61	104	-	165
16:15	EB GR L,R	62	69	-	131
16:15	NB BECK LT	36	-	-	36
16:15	NB BECK L,R	87	85	-	172
16:15	WB GR LT	20	-	-	20
16:15	WB GR L,R,RT	54	54	67	175
16:15	Approach 9	13	28	-	41
16:15	SB BECK L,R,RT	DA	DA	DA	0
16:30	EB GR LLT,RLT	45	82	-	127
16:30	EB GR L,R	48	66	-	114
16:30	NB BECK LT	41	-	-	41
16:30	NB BECK L,R	104	73	-	177
16:30	WB GR LT	22	-	-	22
16:30	WB GR L,R,RT	69	59	77	205
16:30	Approach 9	14	26	-	40
16:30	SB BECK L,R,RT	DA	DA	DA	0
16:45	EB GR LLT,RLT	34	79	-	113
16:45	EB GR L,R	50	71	-	121
16:45	NB BECK LT	38	-	-	38
16:45	NB BECK L,R	83	61	-	144
16:45	WB GR LT	25	-	-	25
16:45	WB GR L,R,RT	79	69	74	222
16:45	Approach 9	17	27	-	44
16:45	SB BECK L,R,RT	DA	DA	DA	0
17:00	EB GR LLT,RLT	57	97	-	154
17:00	EB GR L,R	57	58	-	115
17:00	NB BECK LT	28	-	-	28
17:00	NB BECK L,R	91	74	-	165
17:00	WB GR LT	11	-	-	11
17:00	WB GR L,R,RT	74	59	67	200
17:00	Approach 9	29	28	-	57
17:00	SB BECK L,R,RT	DA	DA	DA	0
17:15	EB GR LLT,RLT	46	80	-	126

17:15	EB GR L,R	61	61	-	122
17:15	NB BECK LT	42	-	-	42
17:15	NB BECK L,R	114	73	-	187
17:15	WB GR LT	24	-	-	24
17:15	WB GR L,R,RT	82	73	78	233
17:15	Approach 9	25	39	-	64
17:15	SB BECK L,R,RT	DA	DA	DA	0
17:30	EB GR LLT,RLT	54	90	-	144
17:30	EB GR L,R	61	80	-	141
17:30	NB BECK LT	44	-	-	44
17:30	NB BECK L,R	85	75	-	160
17:30	WB GR LT	23	-	-	23
17:30	WB GR L,R,RT	89	73	99	261
17:30	Approach 9	46	37	-	83
17:30	SB BECK L,R,RT	DA	DA	DA	0
17:45	EB GR LLT,RLT	42	85	-	127
17:45	EB GR L,R	67	83	-	150
17:45	NB BECK LT	31	-	-	31
17:45	NB BECK L,R	88	75	-	163
17:45	WB GR LT	18	-	-	18
17:45	WB GR L,R,RT	84	72	68	224
17:45	Approach 9	22	31	-	53
17:45	SB BECK L,R,RT	DA	DA	DA	0
18:00	EB GR LLT,RLT	36	59	-	95
18:00	EB GR L,R	55	78	-	133
18:00	NB BECK LT	37	-	-	37
18:00	NB BECK L,R	93	80	-	173
18:00	WB GR LT	21	-	-	21
18:00	WB GR L,R,RT	67	65	72	204
18:00	Approach 9	14	24	-	38
18:00	SB BECK L,R,RT	DA	DA	DA	0
18:15	EB GR LLT,RLT	41	68	-	109
18:15	EB GR L,R	63	76	-	139
18:15	NB BECK LT	39	-	-	39
18:15	NB BECK L,R	80	92	-	172
18:15	WB GR LT	24	-	-	24
18:15	WB GR L,R,RT	68	74	47	189
18:15	Approach 9	17	27	-	44
18:15	SB BECK L,R,RT	DA	DA	DA	0
18:30	EB GR LLT,RLT	26	46	-	72
18:30	EB GR L,R	44	58	-	102
18:30	NB BECK LT	26	-	-	26
18:30	NB BECK L,R	77	74	-	151
18:30	WB GR LT	19	-	-	19
18:30	WB GR L,R,RT	56	60	44	160
18:30	Approach 9	17	22	-	39
18:30	SB BECK L,R,RT	DA	DA	DA	0
18:45	EB GR LLT,RLT	32	47	-	79
18:45	EB GR L,R	30	45	-	75
18:45	NB BECK LT	29	-	-	29

18:45	NB BECK L,R	77	89	-	166
18:45	WB GR LT	16	-	-	16
18:45	WB GR L,R,RT	46	43	44	133
18:45	Approach 9	14	19	-	33
18:45	SB BECK L,R,RT	DA	DA	DA	0
19:00	EB GR LLT,RLT	24	62	-	86
19:00	EB GR L,R	40	54	-	94
19:00	NB BECK LT	25	-	-	25
19:00	NB BECK L,R	73	73	-	146
19:00	WB GR LT	14	-	-	14
19:00	WB GR L,R,RT	46	61	57	164
19:00	Approach 9	17	23	-	40
19:00	SB BECK L,R,RT	DA	DA	DA	0
19:15	EB GR LLT,RLT	35	52	-	87
19:15	EB GR L,R	66	72	-	138
19:15	NB BECK LT	31	-	-	31
19:15	NB BECK L,R	53	70	-	123
19:15	WB GR LT	21	-	-	21
19:15	WB GR L,R,RT	39	57	54	150
19:15	Approach 9	22	33	-	55
19:15	SB BECK L,R,RT	DA	DA	DA	0
19:30	EB GR LLT,RLT	38	54	-	92
19:30	EB GR L,R	58	74	-	132
19:30	NB BECK LT	36	-	-	36
19:30	NB BECK L,R	62	59	-	121
19:30	WB GR LT	12	-	-	12
19:30	WB GR L,R,RT	37	44	33	114
19:30	Approach 9	18	33	-	51
19:30	SB BECK L,R,RT	DA	DA	DA	0
19:45	EB GR LLT,RLT	42	44	-	86
19:45	EB GR L,R	36	52	-	88
19:45	NB BECK LT	43	-	-	43
19:45	NB BECK L,R	59	67	-	126
19:45	WB GR LT	20	-	-	20
19:45	WB GR L,R,RT	35	43	41	119
19:45	Approach 9	18	45	-	63
19:45	SB BECK L,R,RT	DA	DA	DA	0
20:00	EB GR LLT,RLT	35	54	-	89
20:00	EB GR L,R	41	59	-	100
20:00	NB BECK LT	20	-	-	20
20:00	NB BECK L,R	52	56	-	108
20:00	WB GR LT	12	-	-	12
20:00	WB GR L,R,RT	23	42	35	100
20:00	Approach 9	11	31	-	42
20:00	SB BECK L,R,RT	DA	DA	DA	0
20:15	EB GR LLT,RLT	46	48	-	94
20:15	EB GR L,R	40	44	-	84
20:15	NB BECK LT	25	-	-	25
20:15	NB BECK L,R	50	65	-	115
20:15	WB GR LT	11	-	-	11

20:15	WB GR L,R,RT	21	31	30	82
20:15	Approach 9	41	54	-	95
20:15	SB BECK L,R,RT	DA	DA	DA	0
20:30	EB GR LLT,RLT	38	45	-	83
20:30	EB GR L,R	47	43	-	90
20:30	NB BECK LT	20	-	-	20
20:30	NB BECK L,R	37	48	-	85
20:30	WB GR LT	8	-	-	8
20:30	WB GR L,R,RT	30	51	41	122
20:30	Approach 9	38	65	-	103
20:30	SB BECK L,R,RT	DA	DA	DA	0
20:45	EB GR LLT,RLT	45	37	-	82
20:45	EB GR L,R	35	42	-	77
20:45	NB BECK LT	14	-	-	14
20:45	NB BECK L,R	55	60	-	115
20:45	WB GR LT	14	-	-	14
20:45	WB GR L,R,RT	40	36	23	99
20:45	Approach 9	20	60	-	80
20:45	SB BECK L,R,RT	DA	DA	DA	0
21:00	EB GR LLT,RLT	35	31	-	66
21:00	EB GR L,R	37	43	-	80
21:00	NB BECK LT	14	-	-	14
21:00	NB BECK L,R	38	33	-	71
21:00	WB GR LT	6	-	-	6
21:00	WB GR L,R,RT	22	33	35	90
21:00	Approach 9	26	37	-	63
21:00	SB BECK L,R,RT	DA	DA	DA	0
21:15	EB GR LLT,RLT	38	32	-	70
21:15	EB GR L,R	29	29	-	58
21:15	NB BECK LT	20	-	-	20
21:15	NB BECK L,R	39	19	-	58
21:15	WB GR LT	7	-	-	7
21:15	WB GR L,R,RT	24	30	36	90
21:15	Approach 9	36	30	-	66
21:15	SB BECK L,R,RT	DA	DA	DA	0
21:30	EB GR LLT,RLT	32	35	-	67
21:30	EB GR L,R	24	27	-	51
21:30	NB BECK LT	17	-	-	17
21:30	NB BECK L,R	41	28	-	69
21:30	WB GR LT	3	-	-	3
21:30	WB GR L,R,RT	18	28	28	74
21:30	Approach 9	30	45	-	75
21:30	SB BECK L,R,RT	DA	DA	DA	0
21:45	EB GR LLT,RLT	17	20	-	37
21:45	EB GR L,R	26	35	-	61
21:45	NB BECK LT	13	-	-	13
21:45	NB BECK L,R	40	36	-	76
21:45	WB GR LT	4	-	-	4
21:45	WB GR L,R,RT	22	27	24	73
21:45	Approach 9	42	47	-	89

21:45	SB BECK L,R,RT	DA	DA	DA	0
22:00	EB GR LLT,RLT	25	26	-	51
22:00	EB GR L,R	24	24	-	48
22:00	NB BECK LT	15	-	-	15
22:00	NB BECK L,R	33	31	-	64
22:00	WB GR LT	2	-	-	2
22:00	WB GR L,R,RT	14	17	27	58
22:00	Approach 9	34	45	-	79
22:00	SB BECK L,R,RT	DA	DA	DA	0
22:15	EB GR LLT,RLT	24	22	-	46
22:15	EB GR L,R	24	27	-	51
22:15	NB BECK LT	4	-	-	4
22:15	NB BECK L,R	22	18	-	40
22:15	WB GR LT	4	-	-	4
22:15	WB GR L,R,RT	20	22	25	67
22:15	Approach 9	22	38	-	60
22:15	SB BECK L,R,RT	DA	DA	DA	0
22:30	EB GR LLT,RLT	14	15	-	29
22:30	EB GR L,R	23	22	-	45
22:30	NB BECK LT	9	-	-	9
22:30	NB BECK L,R	22	19	-	41
22:30	WB GR LT	6	-	-	6
22:30	WB GR L,R,RT	13	14	18	45
22:30	Approach 9	33	36	-	69
22:30	SB BECK L,R,RT	DA	DA	DA	0
22:45	EB GR LLT,RLT	15	6	-	21
22:45	EB GR L,R	17	13	-	30
22:45	NB BECK LT	16	-	-	16
22:45	NB BECK L,R	20	17	-	37
22:45	WB GR LT	3	-	-	3
22:45	WB GR L,R,RT	14	16	8	38
22:45	Approach 9	16	24	-	40
22:45	SB BECK L,R,RT	DA	DA	DA	0
23:00	EB GR LLT,RLT	18	16	-	34
23:00	EB GR L,R	24	14	-	38
23:00	NB BECK LT	1	-	-	1
23:00	NB BECK L,R	18	10	-	28
23:00	WB GR LT	0	-	-	0
23:00	WB GR L,R,RT	10	13	12	35
23:00	Approach 9	19	32	-	51
23:00	SB BECK L,R,RT	DA	DA	DA	0
23:15	EB GR LLT,RLT	19	19	-	38
23:15	EB GR L,R	24	20	-	44
23:15	NB BECK LT	9	-	-	9
23:15	NB BECK L,R	16	16	-	32
23:15	WB GR LT	0	-	-	0
23:15	WB GR L,R,RT	4	9	13	26
23:15	Approach 9	10	21	-	31
23:15	SB BECK L,R,RT	DA	DA	DA	0
23:30	EB GR LLT,RLT	7	8	-	15

23:30	EB GR L,R	14	12	-	26
23:30	NB BECK LT	5	-	-	5
23:30	NB BECK L,R	16	9	-	25
23:30	WB GR LT	5	-	-	5
23:30	WB GR L,R,RT	3	4	5	12
23:30	Approach 9	8	16	-	24
23:30	SB BECK L,R,RT	DA	DA	DA	0
23:45	EB GR LLT,RLT	11	9	-	20
23:45	EB GR L,R	17	8	-	25
23:45	NB BECK LT	28	-	-	28
23:45	NB BECK L,R	14	13	-	27
23:45	WB GR LT	3	-	-	3
23:45	WB GR L,R,RT	1	3	10	14
23:45	Approach 9	7	16	-	23
23:45	SB BECK L,R,RT	DA	DA	DA	0
24:00	EB GR LLT,RLT	7	11	-	18
24:00	EB GR L,R	10	4	-	14
24:00	NB BECK LT	7	-	-	7
24:00	NB BECK L,R	12	16	-	28
24:00	WB GR LT	1	-	-	1
24:00	WB GR L,R,RT	5	3	3	11
24:00	Approach 9	7	10	-	17
24:00	SB BECK L,R,RT	DA	DA	DA	0

EB GR LLT,RLTAM peak	559	07:40 - 08:40	PM peak	594	15:15 - 16:15	Daily Total
7266						
EB GR L,R AM peak	854	07:20 - 08:20	PM peak	563	17:15 - 18:15	Daily Total
7955						
NB BECK LT AM peak	258	07:25 - 08:25	PM peak	161	15:15 - 16:15	Daily Total
2158						
NB BECK L,R AM peak	796	06:45 - 07:45	PM peak	711	16:55 - 17:55	Daily Total
9499						
WB GR LT AM peak	80	06:50 - 07:50	PM peak	92	16:20 - 17:20	Daily Total
1007						
WB GR L,R,RT AM peak	472	11:00 - 12:00	PM peak	927	16:40 - 17:40	Daily Total
8436						
Approach 9 AM peak	371	07:40 - 08:40	PM peak	341	20:00 - 21:00	Daily Total
4377						
SB BECK L,R,RTAM peak	0		PM peak	0		Daily Total
0						

Tuesday, 03 March 2020
approach - detector(s)...

EB GR LT	11	
EB GR L,R	13	14
NB TAFT LT	1	
NB TAFT	3	
WB GR LT	4	
WB GR L,R	6	7
SB TAFT LT	8	
SB TAFT	10	

00:15	EB GR LT	0	-	0
00:15	EB GR L,R	5	3	8
00:15	NB TAFT LT	0	-	0
00:15	NB TAFT	0	-	0
00:15	WB GR LT	1	-	1
00:15	WB GR L,R	13	11	24
00:15	SB TAFT LT	2	-	2
00:15	SB TAFT	0	-	0
00:30	EB GR LT	0	-	0
00:30	EB GR L,R	4	7	11
00:30	NB TAFT LT	1	-	1
00:30	NB TAFT	2	-	2
00:30	WB GR LT	3	-	3
00:30	WB GR L,R	7	2	9
00:30	SB TAFT LT	1	-	1
00:30	SB TAFT	0	-	0
00:45	EB GR LT	1	-	1
00:45	EB GR L,R	2	1	3
00:45	NB TAFT LT	0	-	0
00:45	NB TAFT	0	-	0
00:45	WB GR LT	0	-	0
00:45	WB GR L,R	4	0	4
00:45	SB TAFT LT	0	-	0
00:45	SB TAFT	0	-	0
01:00	EB GR LT	0	-	0
01:00	EB GR L,R	2	1	3
01:00	NB TAFT LT	0	-	0
01:00	NB TAFT	0	-	0
01:00	WB GR LT	0	-	0
01:00	WB GR L,R	2	2	4
01:00	SB TAFT LT	0	-	0
01:00	SB TAFT	0	-	0
01:15	EB GR LT	0	-	0
01:15	EB GR L,R	0	1	1
01:15	NB TAFT LT	0	-	0
01:15	NB TAFT	0	-	0
01:15	WB GR LT	0	-	0

01:15	WB GR L,R	0	1	1
01:15	SB TAFT LT	0	-	0
01:15	SB TAFT	0	-	0
01:30	EB GR LT	1	-	1
01:30	EB GR L,R	2	1	3
01:30	NB TAFT LT	2	-	2
01:30	NB TAFT	3	-	3
01:30	WB GR LT	0	-	0
01:30	WB GR L,R	1	0	1
01:30	SB TAFT LT	0	-	0
01:30	SB TAFT	0	-	0
01:45	EB GR LT	0	-	0
01:45	EB GR L,R	2	0	2
01:45	NB TAFT LT	0	-	0
01:45	NB TAFT	0	-	0
01:45	WB GR LT	1	-	1
01:45	WB GR L,R	1	1	2
01:45	SB TAFT LT	0	-	0
01:45	SB TAFT	0	-	0
02:00	EB GR LT	0	-	0
02:00	EB GR L,R	2	2	4
02:00	NB TAFT LT	0	-	0
02:00	NB TAFT	0	-	0
02:00	WB GR LT	0	-	0
02:00	WB GR L,R	2	0	2
02:00	SB TAFT LT	0	-	0
02:00	SB TAFT	0	-	0
02:15	EB GR LT	0	-	0
02:15	EB GR L,R	2	0	2
02:15	NB TAFT LT	0	-	0
02:15	NB TAFT	0	-	0
02:15	WB GR LT	0	-	0
02:15	WB GR L,R	3	2	5
02:15	SB TAFT LT	0	-	0
02:15	SB TAFT	0	-	0
02:30	EB GR LT	0	-	0
02:30	EB GR L,R	2	0	2
02:30	NB TAFT LT	0	-	0
02:30	NB TAFT	0	-	0
02:30	WB GR LT	1	-	1
02:30	WB GR L,R	2	0	2
02:30	SB TAFT LT	0	-	0
02:30	SB TAFT	0	-	0
02:45	EB GR LT	0	-	0
02:45	EB GR L,R	3	2	5
02:45	NB TAFT LT	0	-	0
02:45	NB TAFT	1	-	1
02:45	WB GR LT	0	-	0
02:45	WB GR L,R	2	0	2
02:45	SB TAFT LT	0	-	0

02:45	SB TAFT	0	-	0
03:00	EB GR LT	0	-	0
03:00	EB GR L,R	1	0	1
03:00	NB TAFT LT	1	-	1
03:00	NB TAFT	1	-	1
03:00	WB GR LT	1	-	1
03:00	WB GR L,R	0	0	0
03:00	SB TAFT LT	0	-	0
03:00	SB TAFT	0	-	0
03:15	EB GR LT	0	-	0
03:15	EB GR L,R	2	1	3
03:15	NB TAFT LT	1	-	1
03:15	NB TAFT	2	-	2
03:15	WB GR LT	0	-	0
03:15	WB GR L,R	5	3	8
03:15	SB TAFT LT	0	-	0
03:15	SB TAFT	0	-	0
03:30	EB GR LT	0	-	0
03:30	EB GR L,R	0	0	0
03:30	NB TAFT LT	0	-	0
03:30	NB TAFT	1	-	1
03:30	WB GR LT	0	-	0
03:30	WB GR L,R	1	0	1
03:30	SB TAFT LT	0	-	0
03:30	SB TAFT	0	-	0
03:45	EB GR LT	0	-	0
03:45	EB GR L,R	2	0	2
03:45	NB TAFT LT	0	-	0
03:45	NB TAFT	0	-	0
03:45	WB GR LT	0	-	0
03:45	WB GR L,R	2	0	2
03:45	SB TAFT LT	0	-	0
03:45	SB TAFT	0	-	0
04:00	EB GR LT	0	-	0
04:00	EB GR L,R	2	1	3
04:00	NB TAFT LT	0	-	0
04:00	NB TAFT	0	-	0
04:00	WB GR LT	1	-	1
04:00	WB GR L,R	7	5	12
04:00	SB TAFT LT	0	-	0
04:00	SB TAFT	0	-	0
04:15	EB GR LT	1	-	1
04:15	EB GR L,R	3	2	5
04:15	NB TAFT LT	0	-	0
04:15	NB TAFT	0	-	0
04:15	WB GR LT	2	-	2
04:15	WB GR L,R	4	0	4
04:15	SB TAFT LT	0	-	0
04:15	SB TAFT	0	-	0
04:30	EB GR LT	0	-	0

04:30	EB GR L,R	5	4	9
04:30	NB TAFT LT	0	-	0
04:30	NB TAFT	1	-	1
04:30	WB GR LT	0	-	0
04:30	WB GR L,R	6	4	10
04:30	SB TAFT LT	0	-	0
04:30	SB TAFT	0	-	0
04:45	EB GR LT	0	-	0
04:45	EB GR L,R	10	5	15
04:45	NB TAFT LT	0	-	0
04:45	NB TAFT	0	-	0
04:45	WB GR LT	1	-	1
04:45	WB GR L,R	10	4	14
04:45	SB TAFT LT	0	-	0
04:45	SB TAFT	0	-	0
05:00	EB GR LT	0	-	0
05:00	EB GR L,R	6	7	13
05:00	NB TAFT LT	2	-	2
05:00	NB TAFT	2	-	2
05:00	WB GR LT	2	-	2
05:00	WB GR L,R	9	3	12
05:00	SB TAFT LT	0	-	0
05:00	SB TAFT	0	-	0
05:15	EB GR LT	2	-	2
05:15	EB GR L,R	14	7	21
05:15	NB TAFT LT	2	-	2
05:15	NB TAFT	2	-	2
05:15	WB GR LT	2	-	2
05:15	WB GR L,R	6	6	12
05:15	SB TAFT LT	2	-	2
05:15	SB TAFT	1	-	1
05:30	EB GR LT	5	-	5
05:30	EB GR L,R	27	8	35
05:30	NB TAFT LT	2	-	2
05:30	NB TAFT	3	-	3
05:30	WB GR LT	4	-	4
05:30	WB GR L,R	17	7	24
05:30	SB TAFT LT	0	-	0
05:30	SB TAFT	0	-	0
05:45	EB GR LT	3	-	3
05:45	EB GR L,R	22	17	39
05:45	NB TAFT LT	4	-	4
05:45	NB TAFT	11	-	11
05:45	WB GR LT	4	-	4
05:45	WB GR L,R	19	9	28
05:45	SB TAFT LT	0	-	0
05:45	SB TAFT	0	-	0
06:00	EB GR LT	3	-	3
06:00	EB GR L,R	32	30	62
06:00	NB TAFT LT	4	-	4

06:00	NB TAFT	4	-	4
06:00	WB GR LT	11	-	11
06:00	WB GR L,R	19	7	26
06:00	SB TAFT LT	0	-	0
06:00	SB TAFT	0	-	0
06:15	EB GR LT	6	-	6
06:15	EB GR L,R	41	31	72
06:15	NB TAFT LT	2	-	2
06:15	NB TAFT	8	-	8
06:15	WB GR LT	4	-	4
06:15	WB GR L,R	16	13	29
06:15	SB TAFT LT	0	-	0
06:15	SB TAFT	0	-	0
06:30	EB GR LT	12	-	12
06:30	EB GR L,R	53	51	104
06:30	NB TAFT LT	4	-	4
06:30	NB TAFT	18	-	18
06:30	WB GR LT	7	-	7
06:30	WB GR L,R	27	18	45
06:30	SB TAFT LT	0	-	0
06:30	SB TAFT	0	-	0
06:45	EB GR LT	9	-	9
06:45	EB GR L,R	68	67	135
06:45	NB TAFT LT	11	-	11
06:45	NB TAFT	25	-	25
06:45	WB GR LT	11	-	11
06:45	WB GR L,R	30	30	60
06:45	SB TAFT LT	0	-	0
06:45	SB TAFT	0	-	0
07:00	EB GR LT	1	-	1
07:00	EB GR L,R	139	117	256
07:00	NB TAFT LT	16	-	16
07:00	NB TAFT	28	-	28
07:00	WB GR LT	10	-	10
07:00	WB GR L,R	36	35	71
07:00	SB TAFT LT	0	-	0
07:00	SB TAFT	0	-	0
07:15	EB GR LT	1	-	1
07:15	EB GR L,R	162	134	296
07:15	NB TAFT LT	26	-	26
07:15	NB TAFT	52	-	52
07:15	WB GR LT	17	-	17
07:15	WB GR L,R	36	51	87
07:15	SB TAFT LT	3	-	3
07:15	SB TAFT	3	-	3
07:30	EB GR LT	3	-	3
07:30	EB GR L,R	182	138	320
07:30	NB TAFT LT	43	-	43
07:30	NB TAFT	57	-	57
07:30	WB GR LT	14	-	14

07:30	WB GR L,R	47	67	114
07:30	SB TAFT LT	0	-	0
07:30	SB TAFT	1	-	1
07:45	EB GR LT	2	-	2
07:45	EB GR L,R	183	153	336
07:45	NB TAFT LT	41	-	41
07:45	NB TAFT	45	-	45
07:45	WB GR LT	17	-	17
07:45	WB GR L,R	51	87	138
07:45	SB TAFT LT	0	-	0
07:45	SB TAFT	1	-	1
08:00	EB GR LT	0	-	0
08:00	EB GR L,R	162	146	308
08:00	NB TAFT LT	39	-	39
08:00	NB TAFT	50	-	50
08:00	WB GR LT	23	-	23
08:00	WB GR L,R	58	88	146
08:00	SB TAFT LT	1	-	1
08:00	SB TAFT	4	-	4
08:15	EB GR LT	3	-	3
08:15	EB GR L,R	157	118	275
08:15	NB TAFT LT	34	-	34
08:15	NB TAFT	75	-	75
08:15	WB GR LT	17	-	17
08:15	WB GR L,R	50	68	118
08:15	SB TAFT LT	0	-	0
08:15	SB TAFT	0	-	0
08:30	EB GR LT	0	-	0
08:30	EB GR L,R	167	142	309
08:30	NB TAFT LT	22	-	22
08:30	NB TAFT	59	-	59
08:30	WB GR LT	16	-	16
08:30	WB GR L,R	53	80	133
08:30	SB TAFT LT	0	-	0
08:30	SB TAFT	0	-	0
08:45	EB GR LT	2	-	2
08:45	EB GR L,R	141	124	265
08:45	NB TAFT LT	38	-	38
08:45	NB TAFT	59	-	59
08:45	WB GR LT	25	-	25
08:45	WB GR L,R	72	88	160
08:45	SB TAFT LT	1	-	1
08:45	SB TAFT	1	-	1
09:00	EB GR LT	1	-	1
09:00	EB GR L,R	129	116	245
09:00	NB TAFT LT	47	-	47
09:00	NB TAFT	38	-	38
09:00	WB GR LT	36	-	36
09:00	WB GR L,R	57	93	150
09:00	SB TAFT LT	0	-	0

09:00	SB TAFT	0	-	0
09:15	EB GR LT	3	-	3
09:15	EB GR L,R	115	92	207
09:15	NB TAFT LT	29	-	29
09:15	NB TAFT	59	-	59
09:15	WB GR LT	32	-	32
09:15	WB GR L,R	60	90	150
09:15	SB TAFT LT	2	-	2
09:15	SB TAFT	5	-	5
09:30	EB GR LT	4	-	4
09:30	EB GR L,R	101	87	188
09:30	NB TAFT LT	30	-	30
09:30	NB TAFT	33	-	33
09:30	WB GR LT	22	-	22
09:30	WB GR L,R	60	64	124
09:30	SB TAFT LT	1	-	1
09:30	SB TAFT	1	-	1
09:45	EB GR LT	0	-	0
09:45	EB GR L,R	76	82	158
09:45	NB TAFT LT	14	-	14
09:45	NB TAFT	18	-	18
09:45	WB GR LT	18	-	18
09:45	WB GR L,R	56	52	108
09:45	SB TAFT LT	1	-	1
09:45	SB TAFT	0	-	0
10:00	EB GR LT	3	-	3
10:00	EB GR L,R	65	52	117
10:00	NB TAFT LT	12	-	12
10:00	NB TAFT	22	-	22
10:00	WB GR LT	19	-	19
10:00	WB GR L,R	57	48	105
10:00	SB TAFT LT	1	-	1
10:00	SB TAFT	0	-	0
10:15	EB GR LT	0	-	0
10:15	EB GR L,R	68	52	120
10:15	NB TAFT LT	17	-	17
10:15	NB TAFT	19	-	19
10:15	WB GR LT	8	-	8
10:15	WB GR L,R	48	45	93
10:15	SB TAFT LT	0	-	0
10:15	SB TAFT	1	-	1
10:30	EB GR LT	0	-	0
10:30	EB GR L,R	82	51	133
10:30	NB TAFT LT	15	-	15
10:30	NB TAFT	15	-	15
10:30	WB GR LT	10	-	10
10:30	WB GR L,R	55	53	108
10:30	SB TAFT LT	1	-	1
10:30	SB TAFT	2	-	2
10:45	EB GR LT	2	-	2

10:45	EB GR L,R	57	54	111
10:45	NB TAFT LT	19	-	19
10:45	NB TAFT	13	-	13
10:45	WB GR LT	10	-	10
10:45	WB GR L,R	50	52	102
10:45	SB TAFT LT	0	-	0
10:45	SB TAFT	1	-	1
11:00	EB GR LT	0	-	0
11:00	EB GR L,R	66	44	110
11:00	NB TAFT LT	18	-	18
11:00	NB TAFT	20	-	20
11:00	WB GR LT	8	-	8
11:00	WB GR L,R	66	77	143
11:00	SB TAFT LT	1	-	1
11:00	SB TAFT	1	-	1
11:15	EB GR LT	3	-	3
11:15	EB GR L,R	81	60	141
11:15	NB TAFT LT	21	-	21
11:15	NB TAFT	20	-	20
11:15	WB GR LT	18	-	18
11:15	WB GR L,R	57	57	114
11:15	SB TAFT LT	1	-	1
11:15	SB TAFT	2	-	2
11:30	EB GR LT	1	-	1
11:30	EB GR L,R	94	64	158
11:30	NB TAFT LT	24	-	24
11:30	NB TAFT	24	-	24
11:30	WB GR LT	22	-	22
11:30	WB GR L,R	70	67	137
11:30	SB TAFT LT	1	-	1
11:30	SB TAFT	2	-	2
11:45	EB GR LT	0	-	0
11:45	EB GR L,R	97	59	156
11:45	NB TAFT LT	12	-	12
11:45	NB TAFT	24	-	24
11:45	WB GR LT	18	-	18
11:45	WB GR L,R	54	44	98
11:45	SB TAFT LT	1	-	1
11:45	SB TAFT	2	-	2
12:00	EB GR LT	0	-	0
12:00	EB GR L,R	75	63	138
12:00	NB TAFT LT	20	-	20
12:00	NB TAFT	27	-	27
12:00	WB GR LT	15	-	15
12:00	WB GR L,R	66	69	135
12:00	SB TAFT LT	0	-	0
12:00	SB TAFT	1	-	1
12:15	EB GR LT	1	-	1
12:15	EB GR L,R	98	77	175
12:15	NB TAFT LT	15	-	15

12:15	NB TAFT	21	-	21
12:15	WB GR LT	16	-	16
12:15	WB GR L,R	76	79	155
12:15	SB TAFT LT	1	-	1
12:15	SB TAFT	0	-	0
12:30	EB GR LT	3	-	3
12:30	EB GR L,R	79	38	117
12:30	NB TAFT LT	17	-	17
12:30	NB TAFT	23	-	23
12:30	WB GR LT	22	-	22
12:30	WB GR L,R	64	95	159
12:30	SB TAFT LT	0	-	0
12:30	SB TAFT	2	-	2
12:45	EB GR LT	2	-	2
12:45	EB GR L,R	78	59	137
12:45	NB TAFT LT	21	-	21
12:45	NB TAFT	18	-	18
12:45	WB GR LT	17	-	17
12:45	WB GR L,R	88	103	191
12:45	SB TAFT LT	0	-	0
12:45	SB TAFT	0	-	0
13:00	EB GR LT	0	-	0
13:00	EB GR L,R	61	49	110
13:00	NB TAFT LT	14	-	14
13:00	NB TAFT	17	-	17
13:00	WB GR LT	15	-	15
13:00	WB GR L,R	70	82	152
13:00	SB TAFT LT	0	-	0
13:00	SB TAFT	0	-	0
13:15	EB GR LT	2	-	2
13:15	EB GR L,R	73	59	132
13:15	NB TAFT LT	18	-	18
13:15	NB TAFT	13	-	13
13:15	WB GR LT	17	-	17
13:15	WB GR L,R	91	94	185
13:15	SB TAFT LT	0	-	0
13:15	SB TAFT	0	-	0
13:30	EB GR LT	3	-	3
13:30	EB GR L,R	52	35	87
13:30	NB TAFT LT	18	-	18
13:30	NB TAFT	15	-	15
13:30	WB GR LT	21	-	21
13:30	WB GR L,R	80	79	159
13:30	SB TAFT LT	2	-	2
13:30	SB TAFT	0	-	0
13:45	EB GR LT	4	-	4
13:45	EB GR L,R	69	37	106
13:45	NB TAFT LT	23	-	23
13:45	NB TAFT	12	-	12
13:45	WB GR LT	15	-	15

13:45	WB GR L,R	74	77	151
13:45	SB TAFT LT	1	-	1
13:45	SB TAFT	1	-	1
14:00	EB GR LT	0	-	0
14:00	EB GR L,R	62	46	108
14:00	NB TAFT LT	8	-	8
14:00	NB TAFT	19	-	19
14:00	WB GR LT	18	-	18
14:00	WB GR L,R	74	74	148
14:00	SB TAFT LT	0	-	0
14:00	SB TAFT	1	-	1
14:15	EB GR LT	0	-	0
14:15	EB GR L,R	82	38	120
14:15	NB TAFT LT	19	-	19
14:15	NB TAFT	21	-	21
14:15	WB GR LT	14	-	14
14:15	WB GR L,R	82	80	162
14:15	SB TAFT LT	1	-	1
14:15	SB TAFT	0	-	0
14:30	EB GR LT	2	-	2
14:30	EB GR L,R	64	50	114
14:30	NB TAFT LT	28	-	28
14:30	NB TAFT	21	-	21
14:30	WB GR LT	21	-	21
14:30	WB GR L,R	74	72	146
14:30	SB TAFT LT	0	-	0
14:30	SB TAFT	0	-	0
14:45	EB GR LT	3	-	3
14:45	EB GR L,R	80	45	125
14:45	NB TAFT LT	24	-	24
14:45	NB TAFT	19	-	19
14:45	WB GR LT	17	-	17
14:45	WB GR L,R	78	75	153
14:45	SB TAFT LT	2	-	2
14:45	SB TAFT	0	-	0
15:00	EB GR LT	8	-	8
15:00	EB GR L,R	64	57	121
15:00	NB TAFT LT	22	-	22
15:00	NB TAFT	16	-	16
15:00	WB GR LT	18	-	18
15:00	WB GR L,R	63	67	130
15:00	SB TAFT LT	1	-	1
15:00	SB TAFT	0	-	0
15:15	EB GR LT	4	-	4
15:15	EB GR L,R	81	57	138
15:15	NB TAFT LT	33	-	33
15:15	NB TAFT	33	-	33
15:15	WB GR LT	26	-	26
15:15	WB GR L,R	68	73	141
15:15	SB TAFT LT	2	-	2

15:15	SB TAFT	4	-	4
15:30	EB GR LT	1	-	1
15:30	EB GR L,R	86	58	144
15:30	NB TAFT LT	39	-	39
15:30	NB TAFT	26	-	26
15:30	WB GR LT	42	-	42
15:30	WB GR L,R	73	76	149
15:30	SB TAFT LT	2	-	2
15:30	SB TAFT	0	-	0
15:45	EB GR LT	0	-	0
15:45	EB GR L,R	88	77	165
15:45	NB TAFT LT	47	-	47
15:45	NB TAFT	35	-	35
15:45	WB GR LT	24	-	24
15:45	WB GR L,R	81	82	163
15:45	SB TAFT LT	4	-	4
15:45	SB TAFT	1	-	1
16:00	EB GR LT	0	-	0
16:00	EB GR L,R	70	64	134
16:00	NB TAFT LT	32	-	32
16:00	NB TAFT	23	-	23
16:00	WB GR LT	34	-	34
16:00	WB GR L,R	99	74	173
16:00	SB TAFT LT	0	-	0
16:00	SB TAFT	0	-	0
16:15	EB GR LT	2	-	2
16:15	EB GR L,R	77	59	136
16:15	NB TAFT LT	43	-	43
16:15	NB TAFT	43	-	43
16:15	WB GR LT	24	-	24
16:15	WB GR L,R	124	114	238
16:15	SB TAFT LT	2	-	2
16:15	SB TAFT	0	-	0
16:30	EB GR LT	1	-	1
16:30	EB GR L,R	68	48	116
16:30	NB TAFT LT	26	-	26
16:30	NB TAFT	15	-	15
16:30	WB GR LT	31	-	31
16:30	WB GR L,R	129	117	246
16:30	SB TAFT LT	1	-	1
16:30	SB TAFT	0	-	0
16:45	EB GR LT	1	-	1
16:45	EB GR L,R	105	67	172
16:45	NB TAFT LT	33	-	33
16:45	NB TAFT	13	-	13
16:45	WB GR LT	36	-	36
16:45	WB GR L,R	116	134	250
16:45	SB TAFT LT	2	-	2
16:45	SB TAFT	5	-	5
17:00	EB GR LT	2	-	2

17:00	EB GR L,R	75	71	146
17:00	NB TAFT LT	26	-	26
17:00	NB TAFT	35	-	35
17:00	WB GR LT	32	-	32
17:00	WB GR L,R	121	105	226
17:00	SB TAFT LT	0	-	0
17:00	SB TAFT	1	-	1
17:15	EB GR LT	4	-	4
17:15	EB GR L,R	86	68	154
17:15	NB TAFT LT	30	-	30
17:15	NB TAFT	27	-	27
17:15	WB GR LT	39	-	39
17:15	WB GR L,R	128	128	256
17:15	SB TAFT LT	2	-	2
17:15	SB TAFT	0	-	0
17:30	EB GR LT	0	-	0
17:30	EB GR L,R	138	94	232
17:30	NB TAFT LT	47	-	47
17:30	NB TAFT	18	-	18
17:30	WB GR LT	47	-	47
17:30	WB GR L,R	129	124	253
17:30	SB TAFT LT	1	-	1
17:30	SB TAFT	0	-	0
17:45	EB GR LT	1	-	1
17:45	EB GR L,R	109	96	205
17:45	NB TAFT LT	30	-	30
17:45	NB TAFT	16	-	16
17:45	WB GR LT	48	-	48
17:45	WB GR L,R	127	131	258
17:45	SB TAFT LT	2	-	2
17:45	SB TAFT	0	-	0
18:00	EB GR LT	0	-	0
18:00	EB GR L,R	75	76	151
18:00	NB TAFT LT	18	-	18
18:00	NB TAFT	27	-	27
18:00	WB GR LT	49	-	49
18:00	WB GR L,R	116	109	225
18:00	SB TAFT LT	0	-	0
18:00	SB TAFT	0	-	0
18:15	EB GR LT	1	-	1
18:15	EB GR L,R	86	64	150
18:15	NB TAFT LT	25	-	25
18:15	NB TAFT	21	-	21
18:15	WB GR LT	37	-	37
18:15	WB GR L,R	96	114	210
18:15	SB TAFT LT	2	-	2
18:15	SB TAFT	1	-	1
18:30	EB GR LT	1	-	1
18:30	EB GR L,R	68	52	120
18:30	NB TAFT LT	21	-	21

18:30	NB TAFT	14	-	14
18:30	WB GR LT	36	-	36
18:30	WB GR L,R	92	105	197
18:30	SB TAFT LT	1	-	1
18:30	SB TAFT	2	-	2
18:45	EB GR LT	1	-	1
18:45	EB GR L,R	52	49	101
18:45	NB TAFT LT	27	-	27
18:45	NB TAFT	19	-	19
18:45	WB GR LT	26	-	26
18:45	WB GR L,R	72	66	138
18:45	SB TAFT LT	1	-	1
18:45	SB TAFT	1	-	1
19:00	EB GR LT	8	-	8
19:00	EB GR L,R	58	66	124
19:00	NB TAFT LT	14	-	14
19:00	NB TAFT	24	-	24
19:00	WB GR LT	46	-	46
19:00	WB GR L,R	73	60	133
19:00	SB TAFT LT	1	-	1
19:00	SB TAFT	0	-	0
19:15	EB GR LT	6	-	6
19:15	EB GR L,R	44	46	90
19:15	NB TAFT LT	29	-	29
19:15	NB TAFT	25	-	25
19:15	WB GR LT	32	-	32
19:15	WB GR L,R	68	51	119
19:15	SB TAFT LT	0	-	0
19:15	SB TAFT	0	-	0
19:30	EB GR LT	6	-	6
19:30	EB GR L,R	47	49	96
19:30	NB TAFT LT	8	-	8
19:30	NB TAFT	25	-	25
19:30	WB GR LT	28	-	28
19:30	WB GR L,R	65	41	106
19:30	SB TAFT LT	4	-	4
19:30	SB TAFT	1	-	1
19:45	EB GR LT	9	-	9
19:45	EB GR L,R	34	38	72
19:45	NB TAFT LT	10	-	10
19:45	NB TAFT	15	-	15
19:45	WB GR LT	31	-	31
19:45	WB GR L,R	64	42	106
19:45	SB TAFT LT	0	-	0
19:45	SB TAFT	0	-	0
20:00	EB GR LT	8	-	8
20:00	EB GR L,R	34	37	71
20:00	NB TAFT LT	8	-	8
20:00	NB TAFT	15	-	15
20:00	WB GR LT	31	-	31

20:00	WB GR L,R	45	37	82
20:00	SB TAFT LT	0	-	0
20:00	SB TAFT	0	-	0
20:15	EB GR LT	2	-	2
20:15	EB GR L,R	39	32	71
20:15	NB TAFT LT	13	-	13
20:15	NB TAFT	19	-	19
20:15	WB GR LT	24	-	24
20:15	WB GR L,R	38	37	75
20:15	SB TAFT LT	0	-	0
20:15	SB TAFT	1	-	1
20:30	EB GR LT	4	-	4
20:30	EB GR L,R	33	35	68
20:30	NB TAFT LT	3	-	3
20:30	NB TAFT	12	-	12
20:30	WB GR LT	28	-	28
20:30	WB GR L,R	41	30	71
20:30	SB TAFT LT	0	-	0
20:30	SB TAFT	0	-	0
20:45	EB GR LT	4	-	4
20:45	EB GR L,R	54	33	87
20:45	NB TAFT LT	8	-	8
20:45	NB TAFT	16	-	16
20:45	WB GR LT	26	-	26
20:45	WB GR L,R	36	32	68
20:45	SB TAFT LT	0	-	0
20:45	SB TAFT	0	-	0
21:00	EB GR LT	5	-	5
21:00	EB GR L,R	23	26	49
21:00	NB TAFT LT	12	-	12
21:00	NB TAFT	8	-	8
21:00	WB GR LT	12	-	12
21:00	WB GR L,R	23	20	43
21:00	SB TAFT LT	0	-	0
21:00	SB TAFT	0	-	0
21:15	EB GR LT	1	-	1
21:15	EB GR L,R	19	24	43
21:15	NB TAFT LT	19	-	19
21:15	NB TAFT	16	-	16
21:15	WB GR LT	18	-	18
21:15	WB GR L,R	27	15	42
21:15	SB TAFT LT	0	-	0
21:15	SB TAFT	0	-	0
21:30	EB GR LT	4	-	4
21:30	EB GR L,R	18	22	40
21:30	NB TAFT LT	6	-	6
21:30	NB TAFT	6	-	6
21:30	WB GR LT	17	-	17
21:30	WB GR L,R	30	12	42
21:30	SB TAFT LT	0	-	0

21:30	SB TAFT	0	-	0
21:45	EB GR LT	1	-	1
21:45	EB GR L,R	16	10	26
21:45	NB TAFT LT	4	-	4
21:45	NB TAFT	2	-	2
21:45	WB GR LT	11	-	11
21:45	WB GR L,R	23	17	40
21:45	SB TAFT LT	0	-	0
21:45	SB TAFT	0	-	0
22:00	EB GR LT	2	-	2
22:00	EB GR L,R	18	13	31
22:00	NB TAFT LT	4	-	4
22:00	NB TAFT	3	-	3
22:00	WB GR LT	7	-	7
22:00	WB GR L,R	17	9	26
22:00	SB TAFT LT	0	-	0
22:00	SB TAFT	0	-	0
22:15	EB GR LT	1	-	1
22:15	EB GR L,R	16	15	31
22:15	NB TAFT LT	3	-	3
22:15	NB TAFT	3	-	3
22:15	WB GR LT	6	-	6
22:15	WB GR L,R	15	6	21
22:15	SB TAFT LT	0	-	0
22:15	SB TAFT	0	-	0
22:30	EB GR LT	3	-	3
22:30	EB GR L,R	17	9	26
22:30	NB TAFT LT	1	-	1
22:30	NB TAFT	1	-	1
22:30	WB GR LT	4	-	4
22:30	WB GR L,R	12	8	20
22:30	SB TAFT LT	0	-	0
22:30	SB TAFT	0	-	0
22:45	EB GR LT	0	-	0
22:45	EB GR L,R	6	10	16
22:45	NB TAFT LT	3	-	3
22:45	NB TAFT	5	-	5
22:45	WB GR LT	8	-	8
22:45	WB GR L,R	12	5	17
22:45	SB TAFT LT	0	-	0
22:45	SB TAFT	1	-	1
23:00	EB GR LT	0	-	0
23:00	EB GR L,R	6	3	9
23:00	NB TAFT LT	0	-	0
23:00	NB TAFT	4	-	4
23:00	WB GR LT	6	-	6
23:00	WB GR L,R	8	9	17
23:00	SB TAFT LT	0	-	0
23:00	SB TAFT	0	-	0
23:15	EB GR LT	2	-	2

23:15	EB GR L,R	9	3	12
23:15	NB TAFT LT	2	-	2
23:15	NB TAFT	5	-	5
23:15	WB GR LT	6	-	6
23:15	WB GR L,R	16	9	25
23:15	SB TAFT LT	0	-	0
23:15	SB TAFT	0	-	0
23:30	EB GR LT	0	-	0
23:30	EB GR L,R	4	5	9
23:30	NB TAFT LT	2	-	2
23:30	NB TAFT	3	-	3
23:30	WB GR LT	7	-	7
23:30	WB GR L,R	9	2	11
23:30	SB TAFT LT	0	-	0
23:30	SB TAFT	0	-	0
23:45	EB GR LT	2	-	2
23:45	EB GR L,R	11	5	16
23:45	NB TAFT LT	1	-	1
23:45	NB TAFT	0	-	0
23:45	WB GR LT	4	-	4
23:45	WB GR L,R	9	6	15
23:45	SB TAFT LT	0	-	0
23:45	SB TAFT	0	-	0
24:00	EB GR LT	0	-	0
24:00	EB GR L,R	2	5	7
24:00	NB TAFT LT	0	-	0
24:00	NB TAFT	0	-	0
24:00	WB GR LT	4	-	4
24:00	WB GR L,R	6	6	12
24:00	SB TAFT LT	0	-	0
24:00	SB TAFT	0	-	0

EB GR LT 187	AM peak	30	05:45 - 06:45	PM peak	33	18:55 - 19:55	Daily Total
EB GR L,R 9620	AM peak	1274	06:55 - 07:55	PM peak	752	17:05 - 18:05	Daily Total
NB TAFT LT 1427	AM peak	159	07:10 - 08:10	PM peak	161	15:15 - 16:15	Daily Total
NB TAFT 1628	AM peak	243	07:45 - 08:45	PM peak	127	15:15 - 16:15	Daily Total
WB GR LT 1529	AM peak	115	08:30 - 09:30	PM peak	183	17:00 - 18:00	Daily Total
WB GR L,R 8982	AM peak	597	08:10 - 09:10	PM peak	1007	16:50 - 17:50	Daily Total
SB TAFT LT 55	AM peak	5	08:50 - 09:50	PM peak	9	14:45 - 15:45	Daily Total
SB TAFT 51	AM peak	9	07:00 - 08:00	PM peak	6	15:55 - 16:55	Daily Total

On Wednesday, 04 March 2020

EB GR LT	11	
EB GR L,R	13	14
NB TAFT LT	1	
NB TAFT	3	
WB GR LT	4	
WB GR L,R	6	7
SB TAFT LT	8	
SB TAFT	10	

00:15	EB GR LT	1	-	1
00:15	EB GR L,R	5	3	8
00:15	NB TAFT LT	0	-	0
00:15	NB TAFT	1	-	1
00:15	WB GR LT	2	-	2
00:15	WB GR L,R	5	1	6
00:15	SB TAFT LT	0	-	0
00:15	SB TAFT	0	-	0
00:30	EB GR LT	0	-	0
00:30	EB GR L,R	4	6	10
00:30	NB TAFT LT	0	-	0
00:30	NB TAFT	0	-	0
00:30	WB GR LT	0	-	0
00:30	WB GR L,R	2	2	4
00:30	SB TAFT LT	0	-	0
00:30	SB TAFT	0	-	0
00:45	EB GR LT	0	-	0
00:45	EB GR L,R	1	0	1
00:45	NB TAFT LT	0	-	0
00:45	NB TAFT	0	-	0
00:45	WB GR LT	3	-	3
00:45	WB GR L,R	2	0	2
00:45	SB TAFT LT	0	-	0
00:45	SB TAFT	0	-	0
01:00	EB GR LT	0	-	0
01:00	EB GR L,R	3	0	3
01:00	NB TAFT LT	0	-	0
01:00	NB TAFT	0	-	0
01:00	WB GR LT	1	-	1
01:00	WB GR L,R	5	2	7
01:00	SB TAFT LT	0	-	0
01:00	SB TAFT	0	-	0
01:15	EB GR LT	0	-	0
01:15	EB GR L,R	3	1	4
01:15	NB TAFT LT	1	-	1
01:15	NB TAFT	0	-	0
01:15	WB GR LT	0	-	0
01:15	WB GR L,R	2	3	5
01:15	SB TAFT LT	0	-	0
01:15	SB TAFT	0	-	0
01:30	EB GR LT	1	-	1

01:30	EB GR L,R	1	0	1
01:30	NB TAFT LT	0	-	0
01:30	NB TAFT	0	-	0
01:30	WB GR LT	1	-	1
01:30	WB GR L,R	1	0	1
01:30	SB TAFT LT	0	-	0
01:30	SB TAFT	0	-	0
01:45	EB GR LT	1	-	1
01:45	EB GR L,R	2	2	4
01:45	NB TAFT LT	0	-	0
01:45	NB TAFT	0	-	0
01:45	WB GR LT	1	-	1
01:45	WB GR L,R	1	1	2
01:45	SB TAFT LT	0	-	0
01:45	SB TAFT	0	-	0
02:00	EB GR LT	0	-	0
02:00	EB GR L,R	3	2	5
02:00	NB TAFT LT	0	-	0
02:00	NB TAFT	0	-	0
02:00	WB GR LT	1	-	1
02:00	WB GR L,R	1	1	2
02:00	SB TAFT LT	0	-	0
02:00	SB TAFT	0	-	0
02:15	EB GR LT	0	-	0
02:15	EB GR L,R	1	1	2
02:15	NB TAFT LT	0	-	0
02:15	NB TAFT	0	-	0
02:15	WB GR LT	1	-	1
02:15	WB GR L,R	2	2	4
02:15	SB TAFT LT	0	-	0
02:15	SB TAFT	0	-	0
02:30	EB GR LT	1	-	1
02:30	EB GR L,R	4	3	7
02:30	NB TAFT LT	1	-	1
02:30	NB TAFT	0	-	0
02:30	WB GR LT	0	-	0
02:30	WB GR L,R	1	1	2
02:30	SB TAFT LT	0	-	0
02:30	SB TAFT	0	-	0
02:45	EB GR LT	0	-	0
02:45	EB GR L,R	2	0	2
02:45	NB TAFT LT	0	-	0
02:45	NB TAFT	0	-	0
02:45	WB GR LT	1	-	1
02:45	WB GR L,R	4	1	5
02:45	SB TAFT LT	0	-	0
02:45	SB TAFT	0	-	0
03:00	EB GR LT	0	-	0
03:00	EB GR L,R	1	1	2
03:00	NB TAFT LT	0	-	0

03:00	NB TAFT	0	-	0
03:00	WB GR LT	0	-	0
03:00	WB GR L,R	1	1	2
03:00	SB TAFT LT	0	-	0
03:00	SB TAFT	0	-	0
03:15	EB GR LT	0	-	0
03:15	EB GR L,R	1	2	3
03:15	NB TAFT LT	0	-	0
03:15	NB TAFT	0	-	0
03:15	WB GR LT	0	-	0
03:15	WB GR L,R	5	2	7
03:15	SB TAFT LT	0	-	0
03:15	SB TAFT	0	-	0
03:30	EB GR LT	0	-	0
03:30	EB GR L,R	0	0	0
03:30	NB TAFT LT	0	-	0
03:30	NB TAFT	1	-	1
03:30	WB GR LT	1	-	1
03:30	WB GR L,R	3	1	4
03:30	SB TAFT LT	0	-	0
03:30	SB TAFT	0	-	0
03:45	EB GR LT	1	-	1
03:45	EB GR L,R	2	1	3
03:45	NB TAFT LT	2	-	2
03:45	NB TAFT	1	-	1
03:45	WB GR LT	0	-	0
03:45	WB GR L,R	0	2	2
03:45	SB TAFT LT	0	-	0
03:45	SB TAFT	0	-	0
04:00	EB GR LT	0	-	0
04:00	EB GR L,R	0	0	0
04:00	NB TAFT LT	0	-	0
04:00	NB TAFT	0	-	0
04:00	WB GR LT	2	-	2
04:00	WB GR L,R	6	2	8
04:00	SB TAFT LT	0	-	0
04:00	SB TAFT	0	-	0
04:15	EB GR LT	1	-	1
04:15	EB GR L,R	4	3	7
04:15	NB TAFT LT	1	-	1
04:15	NB TAFT	3	-	3
04:15	WB GR LT	1	-	1
04:15	WB GR L,R	3	0	3
04:15	SB TAFT LT	1	-	1
04:15	SB TAFT	0	-	0
04:30	EB GR LT	0	-	0
04:30	EB GR L,R	5	0	5
04:30	NB TAFT LT	1	-	1
04:30	NB TAFT	1	-	1
04:30	WB GR LT	1	-	1

04:30	WB GR L,R	9	2	11
04:30	SB TAFT LT	0	-	0
04:30	SB TAFT	1	-	1
04:45	EB GR LT	0	-	0
04:45	EB GR L,R	6	3	9
04:45	NB TAFT LT	2	-	2
04:45	NB TAFT	1	-	1
04:45	WB GR LT	1	-	1
04:45	WB GR L,R	5	5	10
04:45	SB TAFT LT	0	-	0
04:45	SB TAFT	0	-	0
05:00	EB GR LT	2	-	2
05:00	EB GR L,R	6	5	11
05:00	NB TAFT LT	2	-	2
05:00	NB TAFT	2	-	2
05:00	WB GR LT	2	-	2
05:00	WB GR L,R	11	7	18
05:00	SB TAFT LT	0	-	0
05:00	SB TAFT	0	-	0
05:15	EB GR LT	1	-	1
05:15	EB GR L,R	17	5	22
05:15	NB TAFT LT	0	-	0
05:15	NB TAFT	5	-	5
05:15	WB GR LT	1	-	1
05:15	WB GR L,R	8	5	13
05:15	SB TAFT LT	0	-	0
05:15	SB TAFT	0	-	0
05:30	EB GR LT	4	-	4
05:30	EB GR L,R	18	14	32
05:30	NB TAFT LT	8	-	8
05:30	NB TAFT	7	-	7
05:30	WB GR LT	4	-	4
05:30	WB GR L,R	12	7	19
05:30	SB TAFT LT	3	-	3
05:30	SB TAFT	2	-	2
05:45	EB GR LT	2	-	2
05:45	EB GR L,R	18	17	35
05:45	NB TAFT LT	2	-	2
05:45	NB TAFT	3	-	3
05:45	WB GR LT	3	-	3
05:45	WB GR L,R	14	10	24
05:45	SB TAFT LT	0	-	0
05:45	SB TAFT	0	-	0
06:00	EB GR LT	3	-	3
06:00	EB GR L,R	28	21	49
06:00	NB TAFT LT	4	-	4
06:00	NB TAFT	4	-	4
06:00	WB GR LT	10	-	10
06:00	WB GR L,R	19	5	24
06:00	SB TAFT LT	0	-	0

06:00	SB TAFT	0	-	0
06:15	EB GR LT	6	-	6
06:15	EB GR L,R	27	26	53
06:15	NB TAFT LT	3	-	3
06:15	NB TAFT	7	-	7
06:15	WB GR LT	5	-	5
06:15	WB GR L,R	12	12	24
06:15	SB TAFT LT	0	-	0
06:15	SB TAFT	0	-	0
06:30	EB GR LT	5	-	5
06:30	EB GR L,R	33	23	56
06:30	NB TAFT LT	7	-	7
06:30	NB TAFT	22	-	22
06:30	WB GR LT	8	-	8
06:30	WB GR L,R	15	10	25
06:30	SB TAFT LT	0	-	0
06:30	SB TAFT	0	-	0
06:45	EB GR LT	8	-	8
06:45	EB GR L,R	53	58	111
06:45	NB TAFT LT	11	-	11
06:45	NB TAFT	24	-	24
06:45	WB GR LT	11	-	11
06:45	WB GR L,R	41	28	69
06:45	SB TAFT LT	1	-	1
06:45	SB TAFT	0	-	0
07:00	EB GR LT	2	-	2
07:00	EB GR L,R	78	74	152
07:00	NB TAFT LT	18	-	18
07:00	NB TAFT	37	-	37
07:00	WB GR LT	21	-	21
07:00	WB GR L,R	29	44	73
07:00	SB TAFT LT	0	-	0
07:00	SB TAFT	0	-	0
07:15	EB GR LT	1	-	1
07:15	EB GR L,R	91	61	152
07:15	NB TAFT LT	18	-	18
07:15	NB TAFT	59	-	59
07:15	WB GR LT	12	-	12
07:15	WB GR L,R	24	49	73
07:15	SB TAFT LT	1	-	1
07:15	SB TAFT	1	-	1
07:30	EB GR LT	4	-	4
07:30	EB GR L,R	110	90	200
07:30	NB TAFT LT	44	-	44
07:30	NB TAFT	59	-	59
07:30	WB GR LT	11	-	11
07:30	WB GR L,R	43	69	112
07:30	SB TAFT LT	1	-	1
07:30	SB TAFT	1	-	1
07:45	EB GR LT	0	-	0

07:45	EB GR L,R	116	80	196
07:45	NB TAFT LT	41	-	41
07:45	NB TAFT	43	-	43
07:45	WB GR LT	21	-	21
07:45	WB GR L,R	55	84	139
07:45	SB TAFT LT	1	-	1
07:45	SB TAFT	1	-	1
08:00	EB GR LT	1	-	1
08:00	EB GR L,R	95	85	180
08:00	NB TAFT LT	42	-	42
08:00	NB TAFT	55	-	55
08:00	WB GR LT	29	-	29
08:00	WB GR L,R	49	95	144
08:00	SB TAFT LT	0	-	0
08:00	SB TAFT	1	-	1
08:15	EB GR LT	0	-	0
08:15	EB GR L,R	87	67	154
08:15	NB TAFT LT	38	-	38
08:15	NB TAFT	62	-	62
08:15	WB GR LT	20	-	20
08:15	WB GR L,R	55	59	114
08:15	SB TAFT LT	2	-	2
08:15	SB TAFT	3	-	3
08:30	EB GR LT	2	-	2
08:30	EB GR L,R	74	61	135
08:30	NB TAFT LT	41	-	41
08:30	NB TAFT	56	-	56
08:30	WB GR LT	21	-	21
08:30	WB GR L,R	63	47	110
08:30	SB TAFT LT	0	-	0
08:30	SB TAFT	2	-	2
08:45	EB GR LT	1	-	1
08:45	EB GR L,R	96	67	163
08:45	NB TAFT LT	26	-	26
08:45	NB TAFT	54	-	54
08:45	WB GR LT	25	-	25
08:45	WB GR L,R	40	86	126
08:45	SB TAFT LT	2	-	2
08:45	SB TAFT	3	-	3
09:00	EB GR LT	0	-	0
09:00	EB GR L,R	65	65	130
09:00	NB TAFT LT	31	-	31
09:00	NB TAFT	51	-	51
09:00	WB GR LT	33	-	33
09:00	WB GR L,R	58	64	122
09:00	SB TAFT LT	0	-	0
09:00	SB TAFT	1	-	1
09:15	EB GR LT	0	-	0
09:15	EB GR L,R	67	61	128
09:15	NB TAFT LT	36	-	36

09:15	NB TAFT	56	-	56
09:15	WB GR LT	17	-	17
09:15	WB GR L,R	49	64	113
09:15	SB TAFT LT	1	-	1
09:15	SB TAFT	1	-	1
09:30	EB GR LT	4	-	4
09:30	EB GR L,R	60	58	118
09:30	NB TAFT LT	20	-	20
09:30	NB TAFT	42	-	42
09:30	WB GR LT	20	-	20
09:30	WB GR L,R	55	53	108
09:30	SB TAFT LT	1	-	1
09:30	SB TAFT	0	-	0
09:45	EB GR LT	0	-	0
09:45	EB GR L,R	56	43	99
09:45	NB TAFT LT	18	-	18
09:45	NB TAFT	25	-	25
09:45	WB GR LT	11	-	11
09:45	WB GR L,R	45	65	110
09:45	SB TAFT LT	1	-	1
09:45	SB TAFT	1	-	1
10:00	EB GR LT	1	-	1
10:00	EB GR L,R	63	29	92
10:00	NB TAFT LT	13	-	13
10:00	NB TAFT	18	-	18
10:00	WB GR LT	14	-	14
10:00	WB GR L,R	57	60	117
10:00	SB TAFT LT	1	-	1
10:00	SB TAFT	0	-	0
10:15	EB GR LT	2	-	2
10:15	EB GR L,R	48	43	91
10:15	NB TAFT LT	16	-	16
10:15	NB TAFT	17	-	17
10:15	WB GR LT	11	-	11
10:15	WB GR L,R	50	48	98
10:15	SB TAFT LT	0	-	0
10:15	SB TAFT	0	-	0
10:30	EB GR LT	0	-	0
10:30	EB GR L,R	66	47	113
10:30	NB TAFT LT	16	-	16
10:30	NB TAFT	21	-	21
10:30	WB GR LT	7	-	7
10:30	WB GR L,R	41	46	87
10:30	SB TAFT LT	1	-	1
10:30	SB TAFT	0	-	0
10:45	EB GR LT	1	-	1
10:45	EB GR L,R	61	37	98
10:45	NB TAFT LT	9	-	9
10:45	NB TAFT	13	-	13
10:45	WB GR LT	20	-	20

10:45	WB GR L,R	58	52	110
10:45	SB TAFT LT	0	-	0
10:45	SB TAFT	0	-	0
11:00	EB GR LT	0	-	0
11:00	EB GR L,R	71	53	124
11:00	NB TAFT LT	21	-	21
11:00	NB TAFT	12	-	12
11:00	WB GR LT	8	-	8
11:00	WB GR L,R	52	54	106
11:00	SB TAFT LT	3	-	3
11:00	SB TAFT	1	-	1
11:15	EB GR LT	2	-	2
11:15	EB GR L,R	59	58	117
11:15	NB TAFT LT	17	-	17
11:15	NB TAFT	17	-	17
11:15	WB GR LT	25	-	25
11:15	WB GR L,R	58	56	114
11:15	SB TAFT LT	4	-	4
11:15	SB TAFT	1	-	1
11:30	EB GR LT	3	-	3
11:30	EB GR L,R	78	55	133
11:30	NB TAFT LT	14	-	14
11:30	NB TAFT	17	-	17
11:30	WB GR LT	21	-	21
11:30	WB GR L,R	80	57	137
11:30	SB TAFT LT	2	-	2
11:30	SB TAFT	0	-	0
11:45	EB GR LT	1	-	1
11:45	EB GR L,R	88	53	141
11:45	NB TAFT LT	13	-	13
11:45	NB TAFT	21	-	21
11:45	WB GR LT	22	-	22
11:45	WB GR L,R	55	73	128
11:45	SB TAFT LT	1	-	1
11:45	SB TAFT	0	-	0
12:00	EB GR LT	4	-	4
12:00	EB GR L,R	92	67	159
12:00	NB TAFT LT	21	-	21
12:00	NB TAFT	33	-	33
12:00	WB GR LT	33	-	33
12:00	WB GR L,R	65	73	138
12:00	SB TAFT LT	1	-	1
12:00	SB TAFT	1	-	1
12:15	EB GR LT	1	-	1
12:15	EB GR L,R	88	65	153
12:15	NB TAFT LT	16	-	16
12:15	NB TAFT	25	-	25
12:15	WB GR LT	29	-	29
12:15	WB GR L,R	73	77	150
12:15	SB TAFT LT	3	-	3

12:15	SB TAFT	2	-	2
12:30	EB GR LT	7	-	7
12:30	EB GR L,R	71	56	127
12:30	NB TAFT LT	35	-	35
12:30	NB TAFT	36	-	36
12:30	WB GR LT	22	-	22
12:30	WB GR L,R	69	92	161
12:30	SB TAFT LT	0	-	0
12:30	SB TAFT	2	-	2
12:45	EB GR LT	1	-	1
12:45	EB GR L,R	78	68	146
12:45	NB TAFT LT	18	-	18
12:45	NB TAFT	22	-	22
12:45	WB GR LT	27	-	27
12:45	WB GR L,R	77	79	156
12:45	SB TAFT LT	2	-	2
12:45	SB TAFT	1	-	1
13:00	EB GR LT	4	-	4
13:00	EB GR L,R	76	57	133
13:00	NB TAFT LT	26	-	26
13:00	NB TAFT	18	-	18
13:00	WB GR LT	18	-	18
13:00	WB GR L,R	75	73	148
13:00	SB TAFT LT	1	-	1
13:00	SB TAFT	1	-	1
13:15	EB GR LT	1	-	1
13:15	EB GR L,R	84	51	135
13:15	NB TAFT LT	21	-	21
13:15	NB TAFT	24	-	24
13:15	WB GR LT	17	-	17
13:15	WB GR L,R	77	90	167
13:15	SB TAFT LT	0	-	0
13:15	SB TAFT	2	-	2
13:30	EB GR LT	0	-	0
13:30	EB GR L,R	58	55	113
13:30	NB TAFT LT	21	-	21
13:30	NB TAFT	24	-	24
13:30	WB GR LT	15	-	15
13:30	WB GR L,R	80	82	162
13:30	SB TAFT LT	1	-	1
13:30	SB TAFT	0	-	0
13:45	EB GR LT	8	-	8
13:45	EB GR L,R	72	50	122
13:45	NB TAFT LT	25	-	25
13:45	NB TAFT	18	-	18
13:45	WB GR LT	14	-	14
13:45	WB GR L,R	77	76	153
13:45	SB TAFT LT	1	-	1
13:45	SB TAFT	0	-	0
14:00	EB GR LT	8	-	8

14:00	EB GR L,R	70	48	118
14:00	NB TAFT LT	16	-	16
14:00	NB TAFT	18	-	18
14:00	WB GR LT	8	-	8
14:00	WB GR L,R	62	60	122
14:00	SB TAFT LT	1	-	1
14:00	SB TAFT	0	-	0
14:15	EB GR LT	7	-	7
14:15	EB GR L,R	79	48	127
14:15	NB TAFT LT	15	-	15
14:15	NB TAFT	15	-	15
14:15	WB GR LT	8	-	8
14:15	WB GR L,R	85	81	166
14:15	SB TAFT LT	0	-	0
14:15	SB TAFT	1	-	1
14:30	EB GR LT	8	-	8
14:30	EB GR L,R	76	42	118
14:30	NB TAFT LT	27	-	27
14:30	NB TAFT	19	-	19
14:30	WB GR LT	17	-	17
14:30	WB GR L,R	94	72	166
14:30	SB TAFT LT	1	-	1
14:30	SB TAFT	3	-	3
14:45	EB GR LT	2	-	2
14:45	EB GR L,R	85	61	146
14:45	NB TAFT LT	24	-	24
14:45	NB TAFT	15	-	15
14:45	WB GR LT	31	-	31
14:45	WB GR L,R	88	91	179
14:45	SB TAFT LT	1	-	1
14:45	SB TAFT	0	-	0
15:00	EB GR LT	2	-	2
15:00	EB GR L,R	76	67	143
15:00	NB TAFT LT	21	-	21
15:00	NB TAFT	15	-	15
15:00	WB GR LT	25	-	25
15:00	WB GR L,R	72	71	143
15:00	SB TAFT LT	1	-	1
15:00	SB TAFT	3	-	3
15:15	EB GR LT	17	-	17
15:15	EB GR L,R	94	56	150
15:15	NB TAFT LT	45	-	45
15:15	NB TAFT	28	-	28
15:15	WB GR LT	15	-	15
15:15	WB GR L,R	74	77	151
15:15	SB TAFT LT	3	-	3
15:15	SB TAFT	4	-	4
15:30	EB GR LT	11	-	11
15:30	EB GR L,R	109	69	178
15:30	NB TAFT LT	36	-	36

15:30	NB TAFT	20	-	20
15:30	WB GR LT	34	-	34
15:30	WB GR L,R	62	76	138
15:30	SB TAFT LT	2	-	2
15:30	SB TAFT	0	-	0
15:45	EB GR LT	23	-	23
15:45	EB GR L,R	96	52	148
15:45	NB TAFT LT	41	-	41
15:45	NB TAFT	28	-	28
15:45	WB GR LT	35	-	35
15:45	WB GR L,R	82	86	168
15:45	SB TAFT LT	0	-	0
15:45	SB TAFT	1	-	1
16:00	EB GR LT	19	-	19
16:00	EB GR L,R	91	67	158
16:00	NB TAFT LT	20	-	20
16:00	NB TAFT	24	-	24
16:00	WB GR LT	27	-	27
16:00	WB GR L,R	89	71	160
16:00	SB TAFT LT	1	-	1
16:00	SB TAFT	2	-	2
16:15	EB GR LT	9	-	9
16:15	EB GR L,R	81	50	131
16:15	NB TAFT LT	12	-	12
16:15	NB TAFT	43	-	43
16:15	WB GR LT	30	-	30
16:15	WB GR L,R	97	101	198
16:15	SB TAFT LT	1	-	1
16:15	SB TAFT	1	-	1
16:30	EB GR LT	22	-	22
16:30	EB GR L,R	69	56	125
16:30	NB TAFT LT	11	-	11
16:30	NB TAFT	25	-	25
16:30	WB GR LT	24	-	24
16:30	WB GR L,R	108	99	207
16:30	SB TAFT LT	3	-	3
16:30	SB TAFT	0	-	0
16:45	EB GR LT	17	-	17
16:45	EB GR L,R	59	59	118
16:45	NB TAFT LT	15	-	15
16:45	NB TAFT	25	-	25
16:45	WB GR LT	28	-	28
16:45	WB GR L,R	122	110	232
16:45	SB TAFT LT	3	-	3
16:45	SB TAFT	3	-	3
17:00	EB GR LT	11	-	11
17:00	EB GR L,R	61	59	120
17:00	NB TAFT LT	19	-	19
17:00	NB TAFT	36	-	36
17:00	WB GR LT	32	-	32

17:00	WB GR L,R	114	108	222
17:00	SB TAFT LT	4	-	4
17:00	SB TAFT	4	-	4
17:15	EB GR LT	21	-	21
17:15	EB GR L,R	90	73	163
17:15	NB TAFT LT	37	-	37
17:15	NB TAFT	51	-	51
17:15	WB GR LT	38	-	38
17:15	WB GR L,R	151	150	301
17:15	SB TAFT LT	3	-	3
17:15	SB TAFT	5	-	5
17:30	EB GR LT	12	-	12
17:30	EB GR L,R	80	78	158
17:30	NB TAFT LT	45	-	45
17:30	NB TAFT	21	-	21
17:30	WB GR LT	48	-	48
17:30	WB GR L,R	142	121	263
17:30	SB TAFT LT	0	-	0
17:30	SB TAFT	1	-	1
17:45	EB GR LT	67	-	67
17:45	EB GR L,R	80	88	168
17:45	NB TAFT LT	35	-	35
17:45	NB TAFT	25	-	25
17:45	WB GR LT	62	-	62
17:45	WB GR L,R	120	126	246
17:45	SB TAFT LT	0	-	0
17:45	SB TAFT	1	-	1
18:00	EB GR LT	16	-	16
18:00	EB GR L,R	27	31	58
18:00	NB TAFT LT	43	-	43
18:00	NB TAFT	17	-	17
18:00	WB GR LT	51	-	51
18:00	WB GR L,R	91	91	182
18:00	SB TAFT LT	2	-	2
18:00	SB TAFT	3	-	3
18:15	EB GR LT	1	-	1
18:15	EB GR L,R	55	45	100
18:15	NB TAFT LT	25	-	25
18:15	NB TAFT	25	-	25
18:15	WB GR LT	40	-	40
18:15	WB GR L,R	113	88	201
18:15	SB TAFT LT	0	-	0
18:15	SB TAFT	1	-	1
18:30	EB GR LT	1	-	1
18:30	EB GR L,R	61	63	124
18:30	NB TAFT LT	28	-	28
18:30	NB TAFT	19	-	19
18:30	WB GR LT	38	-	38
18:30	WB GR L,R	88	82	170
18:30	SB TAFT LT	0	-	0

18:30	SB TAFT	0	-	0
18:45	EB GR LT	0	-	0
18:45	EB GR L,R	48	47	95
18:45	NB TAFT LT	24	-	24
18:45	NB TAFT	20	-	20
18:45	WB GR LT	34	-	34
18:45	WB GR L,R	77	72	149
18:45	SB TAFT LT	0	-	0
18:45	SB TAFT	1	-	1
19:00	EB GR LT	5	-	5
19:00	EB GR L,R	55	53	108
19:00	NB TAFT LT	13	-	13
19:00	NB TAFT	23	-	23
19:00	WB GR LT	42	-	42
19:00	WB GR L,R	72	66	138
19:00	SB TAFT LT	0	-	0
19:00	SB TAFT	0	-	0
19:15	EB GR LT	4	-	4
19:15	EB GR L,R	57	64	121
19:15	NB TAFT LT	15	-	15
19:15	NB TAFT	15	-	15
19:15	WB GR LT	32	-	32
19:15	WB GR L,R	47	40	87
19:15	SB TAFT LT	0	-	0
19:15	SB TAFT	0	-	0
19:30	EB GR LT	5	-	5
19:30	EB GR L,R	53	49	102
19:30	NB TAFT LT	21	-	21
19:30	NB TAFT	23	-	23
19:30	WB GR LT	29	-	29
19:30	WB GR L,R	59	49	108
19:30	SB TAFT LT	0	-	0
19:30	SB TAFT	0	-	0
19:45	EB GR LT	4	-	4
19:45	EB GR L,R	54	44	98
19:45	NB TAFT LT	15	-	15
19:45	NB TAFT	15	-	15
19:45	WB GR LT	43	-	43
19:45	WB GR L,R	75	42	117
19:45	SB TAFT LT	0	-	0
19:45	SB TAFT	0	-	0
20:00	EB GR LT	7	-	7
20:00	EB GR L,R	39	30	69
20:00	NB TAFT LT	16	-	16
20:00	NB TAFT	29	-	29
20:00	WB GR LT	26	-	26
20:00	WB GR L,R	55	37	92
20:00	SB TAFT LT	0	-	0
20:00	SB TAFT	0	-	0
20:15	EB GR LT	5	-	5

20:15	EB GR L,R	33	35	68
20:15	NB TAFT LT	16	-	16
20:15	NB TAFT	17	-	17
20:15	WB GR LT	30	-	30
20:15	WB GR L,R	56	29	85
20:15	SB TAFT LT	0	-	0
20:15	SB TAFT	0	-	0
20:30	EB GR LT	10	-	10
20:30	EB GR L,R	25	32	57
20:30	NB TAFT LT	11	-	11
20:30	NB TAFT	18	-	18
20:30	WB GR LT	25	-	25
20:30	WB GR L,R	45	39	84
20:30	SB TAFT LT	0	-	0
20:30	SB TAFT	0	-	0
20:45	EB GR LT	9	-	9
20:45	EB GR L,R	34	39	73
20:45	NB TAFT LT	17	-	17
20:45	NB TAFT	21	-	21
20:45	WB GR LT	21	-	21
20:45	WB GR L,R	39	31	70
20:45	SB TAFT LT	1	-	1
20:45	SB TAFT	0	-	0
21:00	EB GR LT	3	-	3
21:00	EB GR L,R	28	39	67
21:00	NB TAFT LT	12	-	12
21:00	NB TAFT	23	-	23
21:00	WB GR LT	23	-	23
21:00	WB GR L,R	35	25	60
21:00	SB TAFT LT	0	-	0
21:00	SB TAFT	0	-	0
21:15	EB GR LT	4	-	4
21:15	EB GR L,R	19	26	45
21:15	NB TAFT LT	17	-	17
21:15	NB TAFT	23	-	23
21:15	WB GR LT	15	-	15
21:15	WB GR L,R	34	20	54
21:15	SB TAFT LT	0	-	0
21:15	SB TAFT	0	-	0
21:30	EB GR LT	7	-	7
21:30	EB GR L,R	26	11	37
21:30	NB TAFT LT	4	-	4
21:30	NB TAFT	5	-	5
21:30	WB GR LT	17	-	17
21:30	WB GR L,R	27	18	45
21:30	SB TAFT LT	0	-	0
21:30	SB TAFT	0	-	0
21:45	EB GR LT	4	-	4
21:45	EB GR L,R	13	24	37
21:45	NB TAFT LT	8	-	8

21:45	NB TAFT	6	-	6
21:45	WB GR LT	14	-	14
21:45	WB GR L,R	19	18	37
21:45	SB TAFT LT	0	-	0
21:45	SB TAFT	1	-	1
22:00	EB GR LT	4	-	4
22:00	EB GR L,R	10	17	27
22:00	NB TAFT LT	3	-	3
22:00	NB TAFT	2	-	2
22:00	WB GR LT	8	-	8
22:00	WB GR L,R	21	10	31
22:00	SB TAFT LT	0	-	0
22:00	SB TAFT	0	-	0
22:15	EB GR LT	5	-	5
22:15	EB GR L,R	13	15	28
22:15	NB TAFT LT	3	-	3
22:15	NB TAFT	6	-	6
22:15	WB GR LT	3	-	3
22:15	WB GR L,R	22	15	37
22:15	SB TAFT LT	1	-	1
22:15	SB TAFT	1	-	1
22:30	EB GR LT	2	-	2
22:30	EB GR L,R	8	9	17
22:30	NB TAFT LT	3	-	3
22:30	NB TAFT	5	-	5
22:30	WB GR LT	12	-	12
22:30	WB GR L,R	13	8	21
22:30	SB TAFT LT	0	-	0
22:30	SB TAFT	0	-	0
22:45	EB GR LT	2	-	2
22:45	EB GR L,R	14	7	21
22:45	NB TAFT LT	10	-	10
22:45	NB TAFT	8	-	8
22:45	WB GR LT	7	-	7
22:45	WB GR L,R	14	6	20
22:45	SB TAFT LT	0	-	0
22:45	SB TAFT	0	-	0
23:00	EB GR LT	1	-	1
23:00	EB GR L,R	5	7	12
23:00	NB TAFT LT	2	-	2
23:00	NB TAFT	5	-	5
23:00	WB GR LT	4	-	4
23:00	WB GR L,R	8	5	13
23:00	SB TAFT LT	0	-	0
23:00	SB TAFT	0	-	0
23:15	EB GR LT	2	-	2
23:15	EB GR L,R	11	7	18
23:15	NB TAFT LT	2	-	2
23:15	NB TAFT	4	-	4
23:15	WB GR LT	5	-	5

23:15	WB GR L,R	8	10	18
23:15	SB TAFT LT	0	-	0
23:15	SB TAFT	0	-	0
23:30	EB GR LT	0	-	0
23:30	EB GR L,R	1	5	6
23:30	NB TAFT LT	1	-	1
23:30	NB TAFT	3	-	3
23:30	WB GR LT	5	-	5
23:30	WB GR L,R	9	10	19
23:30	SB TAFT LT	0	-	0
23:30	SB TAFT	0	-	0
23:45	EB GR LT	2	-	2
23:45	EB GR L,R	10	4	14
23:45	NB TAFT LT	0	-	0
23:45	NB TAFT	1	-	1
23:45	WB GR LT	2	-	2
23:45	WB GR L,R	4	3	7
23:45	SB TAFT LT	0	-	0
23:45	SB TAFT	0	-	0
24:00	EB GR LT	2	-	2
24:00	EB GR L,R	6	10	16
24:00	NB TAFT LT	0	-	0
24:00	NB TAFT	0	-	0
24:00	WB GR LT	3	-	3
24:00	WB GR L,R	7	4	11
24:00	SB TAFT LT	0	-	0
24:00	SB TAFT	0	-	0

EB GR LT 449	AM peak	22	05:45 - 06:45	PM peak	118	16:50 - 17:50	Daily Total
EB GR L,R 7936	AM peak	743	06:55 - 07:55	PM peak	642	15:05 - 16:05	Daily Total
NB TAFT LT 1448	AM peak	165	07:15 - 08:15	PM peak	169	17:10 - 18:10	Daily Total
NB TAFT 1758	AM peak	228	07:40 - 08:40	PM peak	137	16:15 - 17:15	Daily Total
WB GR LT 1596	AM peak	101	11:00 - 12:00	PM peak	205	17:10 - 18:10	Daily Total
WB GR L,R 8697	AM peak	517	07:35 - 08:35	PM peak	1056	16:35 - 17:35	Daily Total
SB TAFT LT 64	AM peak	10	10:35 - 11:35	PM peak	13	16:10 - 17:10	Daily Total
SB TAFT 65	AM peak	10	07:35 - 08:35	PM peak	13	16:20 - 17:20	Daily Total

On Thursday, 05 March 2020

EB GR LT	11
EB GR L,R	13 14
NB TAFT LT	1
NB TAFT	3

WB GR LT	4	
WB GR L,R	6	7
SB TAFT LT	8	
SB TAFT	10	

00:15	EB GR LT	1	-	1
00:15	EB GR L,R	3	6	9
00:15	NB TAFT LT	1	-	1
00:15	NB TAFT	1	-	1
00:15	WB GR LT	0	-	0
00:15	WB GR L,R	2	2	4
00:15	SB TAFT LT	0	-	0
00:15	SB TAFT	0	-	0
00:30	EB GR LT	0	-	0
00:30	EB GR L,R	7	1	8
00:30	NB TAFT LT	2	-	2
00:30	NB TAFT	1	-	1
00:30	WB GR LT	1	-	1
00:30	WB GR L,R	4	3	7
00:30	SB TAFT LT	0	-	0
00:30	SB TAFT	0	-	0
00:45	EB GR LT	0	-	0
00:45	EB GR L,R	2	1	3
00:45	NB TAFT LT	0	-	0
00:45	NB TAFT	0	-	0
00:45	WB GR LT	3	-	3
00:45	WB GR L,R	3	3	6
00:45	SB TAFT LT	0	-	0
00:45	SB TAFT	0	-	0
01:00	EB GR LT	0	-	0
01:00	EB GR L,R	3	6	9
01:00	NB TAFT LT	0	-	0
01:00	NB TAFT	0	-	0
01:00	WB GR LT	1	-	1
01:00	WB GR L,R	4	0	4
01:00	SB TAFT LT	0	-	0
01:00	SB TAFT	0	-	0
01:15	EB GR LT	1	-	1
01:15	EB GR L,R	2	2	4
01:15	NB TAFT LT	0	-	0
01:15	NB TAFT	0	-	0
01:15	WB GR LT	1	-	1
01:15	WB GR L,R	3	1	4
01:15	SB TAFT LT	0	-	0
01:15	SB TAFT	0	-	0
01:30	EB GR LT	0	-	0
01:30	EB GR L,R	1	2	3
01:30	NB TAFT LT	0	-	0
01:30	NB TAFT	1	-	1
01:30	WB GR LT	1	-	1

01:30	WB GR L,R	2	0	2
01:30	SB TAFT LT	0	-	0
01:30	SB TAFT	0	-	0
01:45	EB GR LT	0	-	0
01:45	EB GR L,R	1	2	3
01:45	NB TAFT LT	1	-	1
01:45	NB TAFT	0	-	0
01:45	WB GR LT	0	-	0
01:45	WB GR L,R	1	2	3
01:45	SB TAFT LT	0	-	0
01:45	SB TAFT	0	-	0
02:00	EB GR LT	0	-	0
02:00	EB GR L,R	1	3	4
02:00	NB TAFT LT	0	-	0
02:00	NB TAFT	0	-	0
02:00	WB GR LT	0	-	0
02:00	WB GR L,R	4	0	4
02:00	SB TAFT LT	0	-	0
02:00	SB TAFT	0	-	0
02:15	EB GR LT	0	-	0
02:15	EB GR L,R	3	0	3
02:15	NB TAFT LT	0	-	0
02:15	NB TAFT	0	-	0
02:15	WB GR LT	0	-	0
02:15	WB GR L,R	2	0	2
02:15	SB TAFT LT	0	-	0
02:15	SB TAFT	0	-	0
02:30	EB GR LT	0	-	0
02:30	EB GR L,R	0	2	2
02:30	NB TAFT LT	0	-	0
02:30	NB TAFT	0	-	0
02:30	WB GR LT	0	-	0
02:30	WB GR L,R	0	0	0
02:30	SB TAFT LT	0	-	0
02:30	SB TAFT	0	-	0
02:45	EB GR LT	1	-	1
02:45	EB GR L,R	3	4	7
02:45	NB TAFT LT	0	-	0
02:45	NB TAFT	0	-	0
02:45	WB GR LT	1	-	1
02:45	WB GR L,R	5	1	6
02:45	SB TAFT LT	0	-	0
02:45	SB TAFT	0	-	0
03:00	EB GR LT	0	-	0
03:00	EB GR L,R	3	2	5
03:00	NB TAFT LT	0	-	0
03:00	NB TAFT	1	-	1
03:00	WB GR LT	0	-	0
03:00	WB GR L,R	0	0	0
03:00	SB TAFT LT	0	-	0

03:00	SB TAFT	0	-	0
03:15	EB GR LT	1	-	1
03:15	EB GR L,R	4	0	4
03:15	NB TAFT LT	1	-	1
03:15	NB TAFT	0	-	0
03:15	WB GR LT	0	-	0
03:15	WB GR L,R	5	2	7
03:15	SB TAFT LT	0	-	0
03:15	SB TAFT	0	-	0
03:30	EB GR LT	0	-	0
03:30	EB GR L,R	1	1	2
03:30	NB TAFT LT	0	-	0
03:30	NB TAFT	1	-	1
03:30	WB GR LT	0	-	0
03:30	WB GR L,R	4	3	7
03:30	SB TAFT LT	0	-	0
03:30	SB TAFT	0	-	0
03:45	EB GR LT	2	-	2
03:45	EB GR L,R	3	0	3
03:45	NB TAFT LT	0	-	0
03:45	NB TAFT	0	-	0
03:45	WB GR LT	0	-	0
03:45	WB GR L,R	2	2	4
03:45	SB TAFT LT	0	-	0
03:45	SB TAFT	0	-	0
04:00	EB GR LT	0	-	0
04:00	EB GR L,R	0	0	0
04:00	NB TAFT LT	2	-	2
04:00	NB TAFT	2	-	2
04:00	WB GR LT	0	-	0
04:00	WB GR L,R	1	1	2
04:00	SB TAFT LT	1	-	1
04:00	SB TAFT	0	-	0
04:15	EB GR LT	1	-	1
04:15	EB GR L,R	6	3	9
04:15	NB TAFT LT	1	-	1
04:15	NB TAFT	0	-	0
04:15	WB GR LT	0	-	0
04:15	WB GR L,R	4	1	5
04:15	SB TAFT LT	0	-	0
04:15	SB TAFT	0	-	0
04:30	EB GR LT	0	-	0
04:30	EB GR L,R	3	2	5
04:30	NB TAFT LT	0	-	0
04:30	NB TAFT	0	-	0
04:30	WB GR LT	1	-	1
04:30	WB GR L,R	7	1	8
04:30	SB TAFT LT	0	-	0
04:30	SB TAFT	0	-	0
04:45	EB GR LT	1	-	1

04:45	EB GR L,R	6	4	10
04:45	NB TAFT LT	4	-	4
04:45	NB TAFT	4	-	4
04:45	WB GR LT	1	-	1
04:45	WB GR L,R	8	5	13
04:45	SB TAFT LT	0	-	0
04:45	SB TAFT	1	-	1
05:00	EB GR LT	1	-	1
05:00	EB GR L,R	8	7	15
05:00	NB TAFT LT	3	-	3
05:00	NB TAFT	4	-	4
05:00	WB GR LT	1	-	1
05:00	WB GR L,R	7	5	12
05:00	SB TAFT LT	0	-	0
05:00	SB TAFT	0	-	0
05:15	EB GR LT	2	-	2
05:15	EB GR L,R	17	11	28
05:15	NB TAFT LT	0	-	0
05:15	NB TAFT	3	-	3
05:15	WB GR LT	5	-	5
05:15	WB GR L,R	9	5	14
05:15	SB TAFT LT	1	-	1
05:15	SB TAFT	1	-	1
05:30	EB GR LT	3	-	3
05:30	EB GR L,R	22	11	33
05:30	NB TAFT LT	2	-	2
05:30	NB TAFT	3	-	3
05:30	WB GR LT	0	-	0
05:30	WB GR L,R	7	10	17
05:30	SB TAFT LT	1	-	1
05:30	SB TAFT	2	-	2
05:45	EB GR LT	4	-	4
05:45	EB GR L,R	22	14	36
05:45	NB TAFT LT	3	-	3
05:45	NB TAFT	6	-	6
05:45	WB GR LT	3	-	3
05:45	WB GR L,R	12	7	19
05:45	SB TAFT LT	0	-	0
05:45	SB TAFT	0	-	0
06:00	EB GR LT	2	-	2
06:00	EB GR L,R	18	17	35
06:00	NB TAFT LT	1	-	1
06:00	NB TAFT	5	-	5
06:00	WB GR LT	5	-	5
06:00	WB GR L,R	16	7	23
06:00	SB TAFT LT	0	-	0
06:00	SB TAFT	0	-	0
06:15	EB GR LT	2	-	2
06:15	EB GR L,R	20	17	37
06:15	NB TAFT LT	7	-	7

06:15	NB TAFT	9	-	9
06:15	WB GR LT	10	-	10
06:15	WB GR L,R	13	13	26
06:15	SB TAFT LT	1	-	1
06:15	SB TAFT	0	-	0
06:30	EB GR LT	3	-	3
06:30	EB GR L,R	44	33	77
06:30	NB TAFT LT	4	-	4
06:30	NB TAFT	14	-	14
06:30	WB GR LT	8	-	8
06:30	WB GR L,R	24	17	41
06:30	SB TAFT LT	1	-	1
06:30	SB TAFT	1	-	1
06:45	EB GR LT	5	-	5
06:45	EB GR L,R	58	53	111
06:45	NB TAFT LT	19	-	19
06:45	NB TAFT	24	-	24
06:45	WB GR LT	4	-	4
06:45	WB GR L,R	24	20	44
06:45	SB TAFT LT	0	-	0
06:45	SB TAFT	0	-	0
07:00	EB GR LT	1	-	1
07:00	EB GR L,R	74	61	135
07:00	NB TAFT LT	21	-	21
07:00	NB TAFT	36	-	36
07:00	WB GR LT	20	-	20
07:00	WB GR L,R	38	33	71
07:00	SB TAFT LT	0	-	0
07:00	SB TAFT	0	-	0
07:15	EB GR LT	1	-	1
07:15	EB GR L,R	86	74	160
07:15	NB TAFT LT	15	-	15
07:15	NB TAFT	52	-	52
07:15	WB GR LT	12	-	12
07:15	WB GR L,R	26	36	62
07:15	SB TAFT LT	2	-	2
07:15	SB TAFT	2	-	2
07:30	EB GR LT	4	-	4
07:30	EB GR L,R	103	79	182
07:30	NB TAFT LT	37	-	37
07:30	NB TAFT	51	-	51
07:30	WB GR LT	10	-	10
07:30	WB GR L,R	46	44	90
07:30	SB TAFT LT	0	-	0
07:30	SB TAFT	2	-	2
07:45	EB GR LT	1	-	1
07:45	EB GR L,R	120	98	218
07:45	NB TAFT LT	31	-	31
07:45	NB TAFT	35	-	35
07:45	WB GR LT	17	-	17

07:45	WB GR L,R	48	68	116
07:45	SB TAFT LT	3	-	3
07:45	SB TAFT	2	-	2
08:00	EB GR LT	6	-	6
08:00	EB GR L,R	134	122	256
08:00	NB TAFT LT	44	-	44
08:00	NB TAFT	47	-	47
08:00	WB GR LT	24	-	24
08:00	WB GR L,R	39	62	101
08:00	SB TAFT LT	1	-	1
08:00	SB TAFT	3	-	3
08:15	EB GR LT	2	-	2
08:15	EB GR L,R	106	93	199
08:15	NB TAFT LT	38	-	38
08:15	NB TAFT	59	-	59
08:15	WB GR LT	17	-	17
08:15	WB GR L,R	45	55	100
08:15	SB TAFT LT	4	-	4
08:15	SB TAFT	2	-	2
08:30	EB GR LT	3	-	3
08:30	EB GR L,R	92	87	179
08:30	NB TAFT LT	13	-	13
08:30	NB TAFT	34	-	34
08:30	WB GR LT	14	-	14
08:30	WB GR L,R	40	43	83
08:30	SB TAFT LT	5	-	5
08:30	SB TAFT	3	-	3
08:45	EB GR LT	1	-	1
08:45	EB GR L,R	103	75	178
08:45	NB TAFT LT	11	-	11
08:45	NB TAFT	36	-	36
08:45	WB GR LT	23	-	23
08:45	WB GR L,R	39	45	84
08:45	SB TAFT LT	3	-	3
08:45	SB TAFT	5	-	5
09:00	EB GR LT	1	-	1
09:00	EB GR L,R	96	93	189
09:00	NB TAFT LT	16	-	16
09:00	NB TAFT	35	-	35
09:00	WB GR LT	20	-	20
09:00	WB GR L,R	53	47	100
09:00	SB TAFT LT	1	-	1
09:00	SB TAFT	1	-	1
09:15	EB GR LT	2	-	2
09:15	EB GR L,R	75	53	128
09:15	NB TAFT LT	9	-	9
09:15	NB TAFT	31	-	31
09:15	WB GR LT	16	-	16
09:15	WB GR L,R	57	67	124
09:15	SB TAFT LT	0	-	0

09:15	SB TAFT	1	-	1
09:30	EB GR LT	6	-	6
09:30	EB GR L,R	80	59	139
09:30	NB TAFT LT	18	-	18
09:30	NB TAFT	23	-	23
09:30	WB GR LT	20	-	20
09:30	WB GR L,R	52	45	97
09:30	SB TAFT LT	2	-	2
09:30	SB TAFT	3	-	3
09:45	EB GR LT	5	-	5
09:45	EB GR L,R	69	55	124
09:45	NB TAFT LT	15	-	15
09:45	NB TAFT	17	-	17
09:45	WB GR LT	14	-	14
09:45	WB GR L,R	48	43	91
09:45	SB TAFT LT	0	-	0
09:45	SB TAFT	1	-	1
10:00	EB GR LT	3	-	3
10:00	EB GR L,R	52	40	92
10:00	NB TAFT LT	16	-	16
10:00	NB TAFT	14	-	14
10:00	WB GR LT	18	-	18
10:00	WB GR L,R	46	42	88
10:00	SB TAFT LT	2	-	2
10:00	SB TAFT	1	-	1
10:15	EB GR LT	6	-	6
10:15	EB GR L,R	70	40	110
10:15	NB TAFT LT	16	-	16
10:15	NB TAFT	20	-	20
10:15	WB GR LT	9	-	9
10:15	WB GR L,R	54	53	107
10:15	SB TAFT LT	3	-	3
10:15	SB TAFT	4	-	4
10:30	EB GR LT	3	-	3
10:30	EB GR L,R	57	41	98
10:30	NB TAFT LT	13	-	13
10:30	NB TAFT	13	-	13
10:30	WB GR LT	17	-	17
10:30	WB GR L,R	48	50	98
10:30	SB TAFT LT	0	-	0
10:30	SB TAFT	0	-	0
10:45	EB GR LT	10	-	10
10:45	EB GR L,R	53	41	94
10:45	NB TAFT LT	12	-	12
10:45	NB TAFT	9	-	9
10:45	WB GR LT	17	-	17
10:45	WB GR L,R	58	42	100
10:45	SB TAFT LT	2	-	2
10:45	SB TAFT	2	-	2
11:00	EB GR LT	3	-	3

11:00	EB GR L,R	57	54	111
11:00	NB TAFT LT	17	-	17
11:00	NB TAFT	14	-	14
11:00	WB GR LT	9	-	9
11:00	WB GR L,R	62	56	118
11:00	SB TAFT LT	4	-	4
11:00	SB TAFT	2	-	2
11:15	EB GR LT	5	-	5
11:15	EB GR L,R	55	34	89
11:15	NB TAFT LT	18	-	18
11:15	NB TAFT	13	-	13
11:15	WB GR LT	12	-	12
11:15	WB GR L,R	44	53	97
11:15	SB TAFT LT	2	-	2
11:15	SB TAFT	1	-	1
11:30	EB GR LT	7	-	7
11:30	EB GR L,R	64	29	93
11:30	NB TAFT LT	29	-	29
11:30	NB TAFT	22	-	22
11:30	WB GR LT	17	-	17
11:30	WB GR L,R	50	60	110
11:30	SB TAFT LT	0	-	0
11:30	SB TAFT	0	-	0
11:45	EB GR LT	9	-	9
11:45	EB GR L,R	65	41	106
11:45	NB TAFT LT	19	-	19
11:45	NB TAFT	30	-	30
11:45	WB GR LT	24	-	24
11:45	WB GR L,R	67	59	126
11:45	SB TAFT LT	3	-	3
11:45	SB TAFT	2	-	2
12:00	EB GR LT	8	-	8
12:00	EB GR L,R	63	41	104
12:00	NB TAFT LT	19	-	19
12:00	NB TAFT	33	-	33
12:00	WB GR LT	14	-	14
12:00	WB GR L,R	81	56	137
12:00	SB TAFT LT	3	-	3
12:00	SB TAFT	0	-	0
12:15	EB GR LT	12	-	12
12:15	EB GR L,R	95	51	146
12:15	NB TAFT LT	16	-	16
12:15	NB TAFT	21	-	21
12:15	WB GR LT	28	-	28
12:15	WB GR L,R	55	76	131
12:15	SB TAFT LT	0	-	0
12:15	SB TAFT	1	-	1
12:30	EB GR LT	6	-	6
12:30	EB GR L,R	73	43	116
12:30	NB TAFT LT	13	-	13

12:30	NB TAFT	33	-	33
12:30	WB GR LT	20	-	20
12:30	WB GR L,R	67	60	127
12:30	SB TAFT LT	3	-	3
12:30	SB TAFT	0	-	0
12:45	EB GR LT	9	-	9
12:45	EB GR L,R	70	31	101
12:45	NB TAFT LT	16	-	16
12:45	NB TAFT	27	-	27
12:45	WB GR LT	9	-	9
12:45	WB GR L,R	67	62	129
12:45	SB TAFT LT	0	-	0
12:45	SB TAFT	1	-	1
13:00	EB GR LT	8	-	8
13:00	EB GR L,R	71	49	120
13:00	NB TAFT LT	7	-	7
13:00	NB TAFT	19	-	19
13:00	WB GR LT	17	-	17
13:00	WB GR L,R	71	72	143
13:00	SB TAFT LT	1	-	1
13:00	SB TAFT	1	-	1
13:15	EB GR LT	6	-	6
13:15	EB GR L,R	62	32	94
13:15	NB TAFT LT	19	-	19
13:15	NB TAFT	28	-	28
13:15	WB GR LT	22	-	22
13:15	WB GR L,R	74	79	153
13:15	SB TAFT LT	1	-	1
13:15	SB TAFT	0	-	0
13:30	EB GR LT	7	-	7
13:30	EB GR L,R	66	52	118
13:30	NB TAFT LT	14	-	14
13:30	NB TAFT	12	-	12
13:30	WB GR LT	18	-	18
13:30	WB GR L,R	67	52	119
13:30	SB TAFT LT	1	-	1
13:30	SB TAFT	0	-	0
13:45	EB GR LT	3	-	3
13:45	EB GR L,R	63	42	105
13:45	NB TAFT LT	23	-	23
13:45	NB TAFT	16	-	16
13:45	WB GR LT	24	-	24
13:45	WB GR L,R	85	68	153
13:45	SB TAFT LT	1	-	1
13:45	SB TAFT	0	-	0
14:00	EB GR LT	9	-	9
14:00	EB GR L,R	77	38	115
14:00	NB TAFT LT	11	-	11
14:00	NB TAFT	17	-	17
14:00	WB GR LT	16	-	16

14:00	WB GR L,R	71	70	141
14:00	SB TAFT LT	2	-	2
14:00	SB TAFT	0	-	0
14:15	EB GR LT	7	-	7
14:15	EB GR L,R	62	42	104
14:15	NB TAFT LT	21	-	21
14:15	NB TAFT	34	-	34
14:15	WB GR LT	18	-	18
14:15	WB GR L,R	76	72	148
14:15	SB TAFT LT	0	-	0
14:15	SB TAFT	0	-	0
14:30	EB GR LT	8	-	8
14:30	EB GR L,R	53	39	92
14:30	NB TAFT LT	28	-	28
14:30	NB TAFT	37	-	37
14:30	WB GR LT	12	-	12
14:30	WB GR L,R	84	73	157
14:30	SB TAFT LT	0	-	0
14:30	SB TAFT	2	-	2
14:45	EB GR LT	4	-	4
14:45	EB GR L,R	76	51	127
14:45	NB TAFT LT	23	-	23
14:45	NB TAFT	27	-	27
14:45	WB GR LT	6	-	6
14:45	WB GR L,R	83	67	150
14:45	SB TAFT LT	1	-	1
14:45	SB TAFT	0	-	0
15:00	EB GR LT	2	-	2
15:00	EB GR L,R	66	49	115
15:00	NB TAFT LT	25	-	25
15:00	NB TAFT	21	-	21
15:00	WB GR LT	20	-	20
15:00	WB GR L,R	77	65	142
15:00	SB TAFT LT	2	-	2
15:00	SB TAFT	1	-	1
15:15	EB GR LT	4	-	4
15:15	EB GR L,R	57	42	99
15:15	NB TAFT LT	38	-	38
15:15	NB TAFT	29	-	29
15:15	WB GR LT	30	-	30
15:15	WB GR L,R	83	71	154
15:15	SB TAFT LT	1	-	1
15:15	SB TAFT	0	-	0
15:30	EB GR LT	7	-	7
15:30	EB GR L,R	61	49	110
15:30	NB TAFT LT	31	-	31
15:30	NB TAFT	29	-	29
15:30	WB GR LT	32	-	32
15:30	WB GR L,R	65	76	141
15:30	SB TAFT LT	0	-	0

15:30	SB TAFT	1	-	1
15:45	EB GR LT	11	-	11
15:45	EB GR L,R	62	61	123
15:45	NB TAFT LT	22	-	22
15:45	NB TAFT	46	-	46
15:45	WB GR LT	30	-	30
15:45	WB GR L,R	84	84	168
15:45	SB TAFT LT	0	-	0
15:45	SB TAFT	0	-	0
16:00	EB GR LT	9	-	9
16:00	EB GR L,R	68	52	120
16:00	NB TAFT LT	42	-	42
16:00	NB TAFT	46	-	46
16:00	WB GR LT	31	-	31
16:00	WB GR L,R	81	81	162
16:00	SB TAFT LT	0	-	0
16:00	SB TAFT	0	-	0
16:15	EB GR LT	7	-	7
16:15	EB GR L,R	67	63	130
16:15	NB TAFT LT	31	-	31
16:15	NB TAFT	32	-	32
16:15	WB GR LT	26	-	26
16:15	WB GR L,R	96	99	195
16:15	SB TAFT LT	2	-	2
16:15	SB TAFT	2	-	2
16:30	EB GR LT	19	-	19
16:30	EB GR L,R	79	57	136
16:30	NB TAFT LT	16	-	16
16:30	NB TAFT	20	-	20
16:30	WB GR LT	30	-	30
16:30	WB GR L,R	111	109	220
16:30	SB TAFT LT	6	-	6
16:30	SB TAFT	4	-	4
16:45	EB GR LT	7	-	7
16:45	EB GR L,R	77	58	135
16:45	NB TAFT LT	11	-	11
16:45	NB TAFT	39	-	39
16:45	WB GR LT	31	-	31
16:45	WB GR L,R	131	114	245
16:45	SB TAFT LT	1	-	1
16:45	SB TAFT	3	-	3
17:00	EB GR LT	8	-	8
17:00	EB GR L,R	77	59	136
17:00	NB TAFT LT	22	-	22
17:00	NB TAFT	28	-	28
17:00	WB GR LT	30	-	30
17:00	WB GR L,R	121	117	238
17:00	SB TAFT LT	2	-	2
17:00	SB TAFT	0	-	0
17:15	EB GR LT	3	-	3

17:15	EB GR L,R	86	73	159
17:15	NB TAFT LT	35	-	35
17:15	NB TAFT	17	-	17
17:15	WB GR LT	45	-	45
17:15	WB GR L,R	121	126	247
17:15	SB TAFT LT	0	-	0
17:15	SB TAFT	0	-	0
17:30	EB GR LT	3	-	3
17:30	EB GR L,R	77	68	145
17:30	NB TAFT LT	57	-	57
17:30	NB TAFT	25	-	25
17:30	WB GR LT	47	-	47
17:30	WB GR L,R	125	106	231
17:30	SB TAFT LT	0	-	0
17:30	SB TAFT	1	-	1
17:45	EB GR LT	0	-	0
17:45	EB GR L,R	89	69	158
17:45	NB TAFT LT	40	-	40
17:45	NB TAFT	18	-	18
17:45	WB GR LT	50	-	50
17:45	WB GR L,R	119	99	218
17:45	SB TAFT LT	1	-	1
17:45	SB TAFT	0	-	0
18:00	EB GR LT	1	-	1
18:00	EB GR L,R	73	77	150
18:00	NB TAFT LT	45	-	45
18:00	NB TAFT	20	-	20
18:00	WB GR LT	33	-	33
18:00	WB GR L,R	100	88	188
18:00	SB TAFT LT	2	-	2
18:00	SB TAFT	2	-	2
18:15	EB GR LT	1	-	1
18:15	EB GR L,R	70	55	125
18:15	NB TAFT LT	23	-	23
18:15	NB TAFT	31	-	31
18:15	WB GR LT	47	-	47
18:15	WB GR L,R	95	98	193
18:15	SB TAFT LT	1	-	1
18:15	SB TAFT	0	-	0
18:30	EB GR LT	0	-	0
18:30	EB GR L,R	66	67	133
18:30	NB TAFT LT	28	-	28
18:30	NB TAFT	20	-	20
18:30	WB GR LT	43	-	43
18:30	WB GR L,R	90	80	170
18:30	SB TAFT LT	0	-	0
18:30	SB TAFT	1	-	1
18:45	EB GR LT	0	-	0
18:45	EB GR L,R	41	60	101
18:45	NB TAFT LT	38	-	38

18:45	NB TAFT	32	-	32
18:45	WB GR LT	29	-	29
18:45	WB GR L,R	67	48	115
18:45	SB TAFT LT	0	-	0
18:45	SB TAFT	1	-	1
19:00	EB GR LT	8	-	8
19:00	EB GR L,R	64	69	133
19:00	NB TAFT LT	16	-	16
19:00	NB TAFT	26	-	26
19:00	WB GR LT	30	-	30
19:00	WB GR L,R	68	55	123
19:00	SB TAFT LT	0	-	0
19:00	SB TAFT	0	-	0
19:15	EB GR LT	14	-	14
19:15	EB GR L,R	56	59	115
19:15	NB TAFT LT	14	-	14
19:15	NB TAFT	28	-	28
19:15	WB GR LT	42	-	42
19:15	WB GR L,R	69	51	120
19:15	SB TAFT LT	0	-	0
19:15	SB TAFT	0	-	0
19:30	EB GR LT	9	-	9
19:30	EB GR L,R	67	52	119
19:30	NB TAFT LT	13	-	13
19:30	NB TAFT	19	-	19
19:30	WB GR LT	25	-	25
19:30	WB GR L,R	61	51	112
19:30	SB TAFT LT	0	-	0
19:30	SB TAFT	0	-	0
19:45	EB GR LT	8	-	8
19:45	EB GR L,R	48	48	96
19:45	NB TAFT LT	16	-	16
19:45	NB TAFT	20	-	20
19:45	WB GR LT	23	-	23
19:45	WB GR L,R	67	40	107
19:45	SB TAFT LT	0	-	0
19:45	SB TAFT	1	-	1
20:00	EB GR LT	4	-	4
20:00	EB GR L,R	34	31	65
20:00	NB TAFT LT	12	-	12
20:00	NB TAFT	15	-	15
20:00	WB GR LT	25	-	25
20:00	WB GR L,R	56	41	97
20:00	SB TAFT LT	0	-	0
20:00	SB TAFT	0	-	0
20:15	EB GR LT	3	-	3
20:15	EB GR L,R	49	54	103
20:15	NB TAFT LT	10	-	10
20:15	NB TAFT	18	-	18
20:15	WB GR LT	25	-	25

20:15	WB GR L,R	50	37	87
20:15	SB TAFT LT	0	-	0
20:15	SB TAFT	1	-	1
20:30	EB GR LT	4	-	4
20:30	EB GR L,R	27	42	69
20:30	NB TAFT LT	15	-	15
20:30	NB TAFT	13	-	13
20:30	WB GR LT	22	-	22
20:30	WB GR L,R	45	32	77
20:30	SB TAFT LT	0	-	0
20:30	SB TAFT	1	-	1
20:45	EB GR LT	1	-	1
20:45	EB GR L,R	24	29	53
20:45	NB TAFT LT	7	-	7
20:45	NB TAFT	9	-	9
20:45	WB GR LT	19	-	19
20:45	WB GR L,R	52	35	87
20:45	SB TAFT LT	0	-	0
20:45	SB TAFT	0	-	0
21:00	EB GR LT	1	-	1
21:00	EB GR L,R	25	24	49
21:00	NB TAFT LT	9	-	9
21:00	NB TAFT	14	-	14
21:00	WB GR LT	18	-	18
21:00	WB GR L,R	40	21	61
21:00	SB TAFT LT	4	-	4
21:00	SB TAFT	0	-	0
21:15	EB GR LT	4	-	4
21:15	EB GR L,R	20	26	46
21:15	NB TAFT LT	8	-	8
21:15	NB TAFT	9	-	9
21:15	WB GR LT	15	-	15
21:15	WB GR L,R	30	20	50
21:15	SB TAFT LT	0	-	0
21:15	SB TAFT	0	-	0
21:30	EB GR LT	5	-	5
21:30	EB GR L,R	19	14	33
21:30	NB TAFT LT	17	-	17
21:30	NB TAFT	20	-	20
21:30	WB GR LT	13	-	13
21:30	WB GR L,R	32	18	50
21:30	SB TAFT LT	0	-	0
21:30	SB TAFT	0	-	0
21:45	EB GR LT	10	-	10
21:45	EB GR L,R	23	21	44
21:45	NB TAFT LT	12	-	12
21:45	NB TAFT	5	-	5
21:45	WB GR LT	5	-	5
21:45	WB GR L,R	17	13	30
21:45	SB TAFT LT	0	-	0

21:45	SB TAFT	0	-	0
22:00	EB GR LT	3	-	3
22:00	EB GR L,R	11	18	29
22:00	NB TAFT LT	6	-	6
22:00	NB TAFT	4	-	4
22:00	WB GR LT	12	-	12
22:00	WB GR L,R	20	8	28
22:00	SB TAFT LT	1	-	1
22:00	SB TAFT	1	-	1
22:15	EB GR LT	3	-	3
22:15	EB GR L,R	14	14	28
22:15	NB TAFT LT	5	-	5
22:15	NB TAFT	9	-	9
22:15	WB GR LT	8	-	8
22:15	WB GR L,R	20	9	29
22:15	SB TAFT LT	0	-	0
22:15	SB TAFT	0	-	0
22:30	EB GR LT	4	-	4
22:30	EB GR L,R	15	11	26
22:30	NB TAFT LT	7	-	7
22:30	NB TAFT	9	-	9
22:30	WB GR LT	8	-	8
22:30	WB GR L,R	20	10	30
22:30	SB TAFT LT	0	-	0
22:30	SB TAFT	0	-	0
22:45	EB GR LT	2	-	2
22:45	EB GR L,R	10	7	17
22:45	NB TAFT LT	6	-	6
22:45	NB TAFT	2	-	2
22:45	WB GR LT	9	-	9
22:45	WB GR L,R	12	2	14
22:45	SB TAFT LT	0	-	0
22:45	SB TAFT	0	-	0
23:00	EB GR LT	0	-	0
23:00	EB GR L,R	5	11	16
23:00	NB TAFT LT	1	-	1
23:00	NB TAFT	3	-	3
23:00	WB GR LT	2	-	2
23:00	WB GR L,R	10	10	20
23:00	SB TAFT LT	0	-	0
23:00	SB TAFT	0	-	0
23:15	EB GR LT	2	-	2
23:15	EB GR L,R	12	8	20
23:15	NB TAFT LT	5	-	5
23:15	NB TAFT	6	-	6
23:15	WB GR LT	7	-	7
23:15	WB GR L,R	10	5	15
23:15	SB TAFT LT	0	-	0
23:15	SB TAFT	0	-	0
23:30	EB GR LT	3	-	3

23:30	EB GR L,R	7	5	12
23:30	NB TAFT LT	1	-	1
23:30	NB TAFT	0	-	0
23:30	WB GR LT	6	-	6
23:30	WB GR L,R	5	1	6
23:30	SB TAFT LT	0	-	0
23:30	SB TAFT	0	-	0
23:45	EB GR LT	3	-	3
23:45	EB GR L,R	9	7	16
23:45	NB TAFT LT	1	-	1
23:45	NB TAFT	1	-	1
23:45	WB GR LT	4	-	4
23:45	WB GR L,R	5	7	12
23:45	SB TAFT LT	0	-	0
23:45	SB TAFT	0	-	0
24:00	EB GR LT	1	-	1
24:00	EB GR L,R	3	4	7
24:00	NB TAFT LT	0	-	0
24:00	NB TAFT	0	-	0
24:00	WB GR LT	4	-	4
24:00	WB GR L,R	8	3	11
24:00	SB TAFT LT	0	-	0
24:00	SB TAFT	0	-	0

EB GR LT 370	AM peak	29	11:00 - 12:00	PM peak	46	15:30 - 16:30	Daily Total
EB GR L,R 7858	AM peak	865	07:10 - 08:10	PM peak	612	17:00 - 18:00	Daily Total
NB TAFT LT 1354	AM peak	150	07:15 - 08:15	PM peak	182	17:05 - 18:05	Daily Total
NB TAFT 1657	AM peak	196	07:10 - 08:10	PM peak	154	15:10 - 16:10	Daily Total
WB GR LT 1456	AM peak	80	08:35 - 09:35	PM peak	182	16:55 - 17:55	Daily Total
WB GR L,R 8128	AM peak	474	10:50 - 11:50	PM peak	964	16:35 - 17:35	Daily Total
SB TAFT LT 78	AM peak	14	07:35 - 08:35	PM peak	11	16:00 - 17:00	Daily Total
SB TAFT 67	AM peak	14	07:40 - 08:40	PM peak	9	15:45 - 16:45	Daily Total

Tuesday, 03 March 2020

approach - detector(s)...

	EB GR LT	4			
	EB GR L,R	6	7		
	WB GR L,R,RT	8	9	10	
SB EXPO	LT,LT/RT,RT	1	2	3	
00:15	EB GR LT	0	-	-	0
00:15	EB GR L,R	4	4	-	8
00:15	WB GR L,R,RT	14	5	0	19
00:15	SB EXPO LT,LT/RT,RT	0	0	2	2
00:30	EB GR LT	1	-	-	1
00:30	EB GR L,R	3	6	-	9
00:30	WB GR L,R,RT	6	5	0	11
00:30	SB EXPO LT,LT/RT,RT	1	0	0	1
00:45	EB GR LT	1	-	-	1
00:45	EB GR L,R	3	2	-	5
00:45	WB GR L,R,RT	5	2	0	7
00:45	SB EXPO LT,LT/RT,RT	0	0	1	1
01:00	EB GR LT	3	-	-	3
01:00	EB GR L,R	2	0	-	2
01:00	WB GR L,R,RT	1	0	1	2
01:00	SB EXPO LT,LT/RT,RT	0	0	0	0
01:15	EB GR LT	0	-	-	0
01:15	EB GR L,R	0	1	-	1
01:15	WB GR L,R,RT	0	1	0	1
01:15	SB EXPO LT,LT/RT,RT	0	0	0	0
01:30	EB GR LT	0	-	-	0
01:30	EB GR L,R	2	1	-	3
01:30	WB GR L,R,RT	1	2	0	3
01:30	SB EXPO LT,LT/RT,RT	0	0	0	0
01:45	EB GR LT	1	-	-	1
01:45	EB GR L,R	3	0	-	3
01:45	WB GR L,R,RT	1	1	1	3
01:45	SB EXPO LT,LT/RT,RT	0	1	2	3
02:00	EB GR LT	0	-	-	0
02:00	EB GR L,R	2	0	-	2
02:00	WB GR L,R,RT	2	0	0	2
02:00	SB EXPO LT,LT/RT,RT	0	0	0	0
02:15	EB GR LT	0	-	-	0
02:15	EB GR L,R	2	0	-	2
02:15	WB GR L,R,RT	2	2	0	4
02:15	SB EXPO LT,LT/RT,RT	0	0	0	0
02:30	EB GR LT	0	-	-	0
02:30	EB GR L,R	4	0	-	4
02:30	WB GR L,R,RT	1	0	1	2
02:30	SB EXPO LT,LT/RT,RT	0	0	1	1
02:45	EB GR LT	1	-	-	1

02:45	EB GR L,R	3	1	-	4
02:45	WB GR L,R,RT	3	0	0	3
02:45	SB EXPO LT,LT/RT,RT	0	0	0	0
03:00	EB GR LT	0	-	-	0
03:00	EB GR L,R	1	0	-	1
03:00	WB GR L,R,RT	1	0	0	1
03:00	SB EXPO LT,LT/RT,RT	0	0	0	0
03:15	EB GR LT	0	-	-	0
03:15	EB GR L,R	2	1	-	3
03:15	WB GR L,R,RT	4	2	0	6
03:15	SB EXPO LT,LT/RT,RT	0	0	0	0
03:30	EB GR LT	0	-	-	0
03:30	EB GR L,R	0	0	-	0
03:30	WB GR L,R,RT	1	0	0	1
03:30	SB EXPO LT,LT/RT,RT	0	0	0	0
03:45	EB GR LT	0	-	-	0
03:45	EB GR L,R	2	0	-	2
03:45	WB GR L,R,RT	2	0	0	2
03:45	SB EXPO LT,LT/RT,RT	0	1	1	2
04:00	EB GR LT	0	-	-	0
04:00	EB GR L,R	2	1	-	3
04:00	WB GR L,R,RT	7	3	1	11
04:00	SB EXPO LT,LT/RT,RT	0	0	0	0
04:15	EB GR LT	1	-	-	1
04:15	EB GR L,R	3	1	-	4
04:15	WB GR L,R,RT	4	0	1	5
04:15	SB EXPO LT,LT/RT,RT	0	0	0	0
04:30	EB GR LT	2	-	-	2
04:30	EB GR L,R	6	3	-	9
04:30	WB GR L,R,RT	6	3	0	9
04:30	SB EXPO LT,LT/RT,RT	0	0	1	1
04:45	EB GR LT	2	-	-	2
04:45	EB GR L,R	9	4	-	13
04:45	WB GR L,R,RT	6	2	5	13
04:45	SB EXPO LT,LT/RT,RT	0	0	0	0
05:00	EB GR LT	2	-	-	2
05:00	EB GR L,R	5	8	-	13
05:00	WB GR L,R,RT	7	6	1	14
05:00	SB EXPO LT,LT/RT,RT	1	0	0	1
05:15	EB GR LT	4	-	-	4
05:15	EB GR L,R	14	6	-	20
05:15	WB GR L,R,RT	7	6	0	13
05:15	SB EXPO LT,LT/RT,RT	0	0	0	0
05:30	EB GR LT	8	-	-	8
05:30	EB GR L,R	30	6	-	36
05:30	WB GR L,R,RT	18	6	2	26
05:30	SB EXPO LT,LT/RT,RT	1	0	1	2
05:45	EB GR LT	6	-	-	6
05:45	EB GR L,R	24	14	-	38
05:45	WB GR L,R,RT	15	11	2	28

05:45	SB EXPO	LT,LT/RT,RT	1	1	0	2
06:00		EB GR LT	8	-	-	8
06:00		EB GR L,R	34	29	-	63
06:00		WB GR L,R,RT	15	9	0	24
06:00	SB EXPO	LT,LT/RT,RT	0	0	1	1
06:15		EB GR LT	10	-	-	10
06:15		EB GR L,R	42	31	-	73
06:15		WB GR L,R,RT	16	11	0	27
06:15	SB EXPO	LT,LT/RT,RT	2	1	0	3
06:30		EB GR LT	11	-	-	11
06:30		EB GR L,R	59	48	-	107
06:30		WB GR L,R,RT	25	17	2	44
06:30	SB EXPO	LT,LT/RT,RT	0	1	0	1
06:45		EB GR LT	15	-	-	15
06:45		EB GR L,R	79	72	-	151
06:45		WB GR L,R,RT	29	33	10	72
06:45	SB EXPO	LT,LT/RT,RT	1	1	0	2
07:00		EB GR LT	10	-	-	10
07:00		EB GR L,R	150	111	-	261
07:00		WB GR L,R,RT	31	29	16	76
07:00	SB EXPO	LT,LT/RT,RT	2	1	1	4
07:15		EB GR LT	12	-	-	12
07:15		EB GR L,R	129	102	-	231
07:15		WB GR L,R,RT	30	36	19	85
07:15	SB EXPO	LT,LT/RT,RT	1	2	3	6
07:30		EB GR LT	23	-	-	23
07:30		EB GR L,R	203	145	-	348
07:30		WB GR L,R,RT	36	39	30	105
07:30	SB EXPO	LT,LT/RT,RT	1	0	0	1
07:45		EB GR LT	17	-	-	17
07:45		EB GR L,R	202	173	-	375
07:45		WB GR L,R,RT	55	62	45	162
07:45	SB EXPO	LT,LT/RT,RT	4	3	4	11
08:00		EB GR LT	23	-	-	23
08:00		EB GR L,R	176	175	-	351
08:00		WB GR L,R,RT	65	83	39	187
08:00	SB EXPO	LT,LT/RT,RT	2	3	2	7
08:15		EB GR LT	17	-	-	17
08:15		EB GR L,R	182	142	-	324
08:15		WB GR L,R,RT	62	65	29	156
08:15	SB EXPO	LT,LT/RT,RT	5	5	3	13
08:30		EB GR LT	29	-	-	29
08:30		EB GR L,R	178	148	-	326
08:30		WB GR L,R,RT	62	65	39	166
08:30	SB EXPO	LT,LT/RT,RT	5	4	2	11
08:45		EB GR LT	26	-	-	26
08:45		EB GR L,R	153	142	-	295
08:45		WB GR L,R,RT	87	74	36	197
08:45	SB EXPO	LT,LT/RT,RT	3	1	2	6
09:00		EB GR LT	28	-	-	28

09:00		EB GR L,R	146	124	-	270
09:00		WB GR L,R,RT	60	80	38	178
09:00	SB EXPO	LT,LT/RT,RT	8	2	2	12
09:15		EB GR LT	26	-	-	26
09:15		EB GR L,R	123	108	-	231
09:15		WB GR L,R,RT	73	77	39	189
09:15	SB EXPO	LT,LT/RT,RT	2	3	5	10
09:30		EB GR LT	19	-	-	19
09:30		EB GR L,R	121	118	-	239
09:30		WB GR L,R,RT	67	67	23	157
09:30	SB EXPO	LT,LT/RT,RT	1	2	3	6
09:45		EB GR LT	3	-	-	3
09:45		EB GR L,R	82	94	-	176
09:45		WB GR L,R,RT	53	47	14	114
09:45	SB EXPO	LT,LT/RT,RT	1	1	3	5
10:00		EB GR LT	6	-	-	6
10:00		EB GR L,R	77	69	-	146
10:00		WB GR L,R,RT	60	49	8	117
10:00	SB EXPO	LT,LT/RT,RT	1	2	5	8
10:15		EB GR LT	6	-	-	6
10:15		EB GR L,R	66	53	-	119
10:15		WB GR L,R,RT	55	41	17	113
10:15	SB EXPO	LT,LT/RT,RT	6	1	6	13
10:30		EB GR LT	8	-	-	8
10:30		EB GR L,R	80	61	-	141
10:30		WB GR L,R,RT	61	63	4	128
10:30	SB EXPO	LT,LT/RT,RT	10	1	2	13
10:45		EB GR LT	10	-	-	10
10:45		EB GR L,R	74	62	-	136
10:45		WB GR L,R,RT	55	56	16	127
10:45	SB EXPO	LT,LT/RT,RT	1	0	8	9
11:00		EB GR LT	13	-	-	13
11:00		EB GR L,R	62	51	-	113
11:00		WB GR L,R,RT	61	77	17	155
11:00	SB EXPO	LT,LT/RT,RT	8	2	6	16
11:15		EB GR LT	3	-	-	3
11:15		EB GR L,R	82	73	-	155
11:15		WB GR L,R,RT	61	68	13	142
11:15	SB EXPO	LT,LT/RT,RT	11	3	9	23
11:30		EB GR LT	6	-	-	6
11:30		EB GR L,R	86	74	-	160
11:30		WB GR L,R,RT	93	74	13	180
11:30	SB EXPO	LT,LT/RT,RT	11	8	9	28
11:45		EB GR LT	6	-	-	6
11:45		EB GR L,R	85	66	-	151
11:45		WB GR L,R,RT	64	53	12	129
11:45	SB EXPO	LT,LT/RT,RT	12	4	11	27
12:00		EB GR LT	4	-	-	4
12:00		EB GR L,R	93	68	-	161
12:00		WB GR L,R,RT	68	67	14	149

12:00	SB EXPO	LT,LT/RT,RT	11	3	19	33
12:15		EB GR LT	8	-	-	8
12:15		EB GR L,R	80	100	-	180
12:15		WB GR L,R,RT	73	81	14	168
12:15	SB EXPO	LT,LT/RT,RT	12	5	16	33
12:30		EB GR LT	11	-	-	11
12:30		EB GR L,R	90	69	-	159
12:30		WB GR L,R,RT	86	76	36	198
12:30	SB EXPO	LT,LT/RT,RT	7	2	10	19
12:45		EB GR LT	15	-	-	15
12:45		EB GR L,R	83	84	-	167
12:45		WB GR L,R,RT	88	80	34	202
12:45	SB EXPO	LT,LT/RT,RT	10	3	5	18
13:00		EB GR LT	10	-	-	10
13:00		EB GR L,R	77	58	-	135
13:00		WB GR L,R,RT	84	76	29	189
13:00	SB EXPO	LT,LT/RT,RT	7	1	14	22
13:15		EB GR LT	8	-	-	8
13:15		EB GR L,R	82	77	-	159
13:15		WB GR L,R,RT	98	96	17	211
13:15	SB EXPO	LT,LT/RT,RT	2	1	9	12
13:30		EB GR LT	36	-	-	36
13:30		EB GR L,R	79	48	-	127
13:30		WB GR L,R,RT	83	87	35	205
13:30	SB EXPO	LT,LT/RT,RT	6	1	10	17
13:45		EB GR LT	45	-	-	45
13:45		EB GR L,R	84	58	-	142
13:45		WB GR L,R,RT	91	112	40	243
13:45	SB EXPO	LT,LT/RT,RT	6	0	10	16
14:00		EB GR LT	5	-	-	5
14:00		EB GR L,R	79	71	-	150
14:00		WB GR L,R,RT	72	79	7	158
14:00	SB EXPO	LT,LT/RT,RT	3	3	6	12
14:15		EB GR LT	4	-	-	4
14:15		EB GR L,R	76	56	-	132
14:15		WB GR L,R,RT	76	83	10	169
14:15	SB EXPO	LT,LT/RT,RT	13	4	19	36
14:30		EB GR LT	5	-	-	5
14:30		EB GR L,R	72	57	-	129
14:30		WB GR L,R,RT	80	83	6	169
14:30	SB EXPO	LT,LT/RT,RT	3	0	10	13
14:45		EB GR LT	41	-	-	41
14:45		EB GR L,R	102	58	-	160
14:45		WB GR L,R,RT	73	98	26	197
14:45	SB EXPO	LT,LT/RT,RT	6	3	8	17
15:00		EB GR LT	69	-	-	69
15:00		EB GR L,R	70	76	-	146
15:00		WB GR L,R,RT	80	112	59	251
15:00	SB EXPO	LT,LT/RT,RT	9	2	14	25
15:15		EB GR LT	28	-	-	28

15:15		EB GR L,R	88	71	-	159
15:15		WB GR L,R,RT	81	109	25	215
15:15	SB EXPO	LT,LT/RT,RT	12	4	17	33
15:30		EB GR LT	3	-	-	3
15:30		EB GR L,R	74	76	-	150
15:30		WB GR L,R,RT	90	96	7	193
15:30	SB EXPO	LT,LT/RT,RT	9	5	11	25
15:45		EB GR LT	2	-	-	2
15:45		EB GR L,R	89	84	-	173
15:45		WB GR L,R,RT	96	107	5	208
15:45	SB EXPO	LT,LT/RT,RT	6	2	16	24
16:00		EB GR LT	3	-	-	3
16:00		EB GR L,R	64	67	-	131
16:00		WB GR L,R,RT	105	97	5	207
16:00	SB EXPO	LT,LT/RT,RT	9	1	7	17
16:15		EB GR LT	2	-	-	2
16:15		EB GR L,R	76	62	-	138
16:15		WB GR L,R,RT	146	148	3	297
16:15	SB EXPO	LT,LT/RT,RT	11	0	13	24
16:30		EB GR LT	1	-	-	1
16:30		EB GR L,R	63	65	-	128
16:30		WB GR L,R,RT	122	146	5	273
16:30	SB EXPO	LT,LT/RT,RT	3	3	16	22
16:45		EB GR LT	6	-	-	6
16:45		EB GR L,R	90	73	-	163
16:45		WB GR L,R,RT	140	161	7	308
16:45	SB EXPO	LT,LT/RT,RT	18	13	32	63
17:00		EB GR LT	59	-	-	59
17:00		EB GR L,R	80	66	-	146
17:00		WB GR L,R,RT	135	143	13	291
17:00	SB EXPO	LT,LT/RT,RT	10	13	19	42
17:15		EB GR LT	19	-	-	19
17:15		EB GR L,R	70	80	-	150
17:15		WB GR L,R,RT	146	149	33	328
17:15	SB EXPO	LT,LT/RT,RT	23	10	22	55
17:30		EB GR LT	1	-	-	1
17:30		EB GR L,R	100	82	-	182
17:30		WB GR L,R,RT	154	146	6	306
17:30	SB EXPO	LT,LT/RT,RT	37	2	34	73
17:45		EB GR LT	2	-	-	2
17:45		EB GR L,R	87	98	-	185
17:45		WB GR L,R,RT	144	140	13	297
17:45	SB EXPO	LT,LT/RT,RT	18	4	21	43
18:00		EB GR LT	8	-	-	8
18:00		EB GR L,R	67	65	-	132
18:00		WB GR L,R,RT	125	105	21	251
18:00	SB EXPO	LT,LT/RT,RT	19	1	9	29
18:15		EB GR LT	11	-	-	11
18:15		EB GR L,R	59	61	-	120
18:15		WB GR L,R,RT	52	58	13	123

18:15	SB EXPO	LT,LT/RT,RT	21	0	10	31
18:30		EB GR LT	2	-	-	2
18:30		EB GR L,R	58	58	-	116
18:30		WB GR L,R,RT	89	93	19	201
18:30	SB EXPO	LT,LT/RT,RT	4	0	6	10
18:45		EB GR LT	1	-	-	1
18:45		EB GR L,R	58	53	-	111
18:45		WB GR L,R,RT	68	62	4	134
18:45	SB EXPO	LT,LT/RT,RT	3	0	2	5
19:00		EB GR LT	5	-	-	5
19:00		EB GR L,R	54	64	-	118
19:00		WB GR L,R,RT	71	74	6	151
19:00	SB EXPO	LT,LT/RT,RT	3	2	6	11
19:15		EB GR LT	12	-	-	12
19:15		EB GR L,R	48	51	-	99
19:15		WB GR L,R,RT	59	60	12	131
19:15	SB EXPO	LT,LT/RT,RT	4	5	4	13
19:30		EB GR LT	12	-	-	12
19:30		EB GR L,R	39	40	-	79
19:30		WB GR L,R,RT	61	56	9	126
19:30	SB EXPO	LT,LT/RT,RT	1	1	3	5
19:45		EB GR LT	13	-	-	13
19:45		EB GR L,R	37	37	-	74
19:45		WB GR L,R,RT	62	54	9	125
19:45	SB EXPO	LT,LT/RT,RT	0	2	4	6
20:00		EB GR LT	11	-	-	11
20:00		EB GR L,R	44	39	-	83
20:00		WB GR L,R,RT	37	44	6	87
20:00	SB EXPO	LT,LT/RT,RT	0	0	1	1
20:15		EB GR LT	5	-	-	5
20:15		EB GR L,R	35	36	-	71
20:15		WB GR L,R,RT	40	39	7	86
20:15	SB EXPO	LT,LT/RT,RT	2	0	5	7
20:30		EB GR LT	5	-	-	5
20:30		EB GR L,R	36	30	-	66
20:30		WB GR L,R,RT	42	31	3	76
20:30	SB EXPO	LT,LT/RT,RT	5	3	0	8
20:45		EB GR LT	7	-	-	7
20:45		EB GR L,R	34	30	-	64
20:45		WB GR L,R,RT	39	37	6	82
20:45	SB EXPO	LT,LT/RT,RT	15	10	5	30
21:00		EB GR LT	2	-	-	2
21:00		EB GR L,R	18	20	-	38
21:00		WB GR L,R,RT	22	25	4	51
21:00	SB EXPO	LT,LT/RT,RT	7	3	2	12
21:15		EB GR LT	4	-	-	4
21:15		EB GR L,R	13	17	-	30
21:15		WB GR L,R,RT	35	33	3	71
21:15	SB EXPO	LT,LT/RT,RT	6	3	2	11
21:30		EB GR LT	4	-	-	4

21:30	EB GR L,R	18	23	-	41
21:30	WB GR L,R,RT	27	15	6	48
21:30	SB EXPO LT,LT/RT,RT	0	3	5	8
21:45	EB GR LT	3	-	-	3
21:45	EB GR L,R	12	12	-	24
21:45	WB GR L,R,RT	19	13	2	34
21:45	SB EXPO LT,LT/RT,RT	4	3	7	14
22:00	EB GR LT	3	-	-	3
22:00	EB GR L,R	19	13	-	32
22:00	WB GR L,R,RT	16	15	0	31
22:00	SB EXPO LT,LT/RT,RT	2	2	3	7
22:15	EB GR LT	0	-	-	0
22:15	EB GR L,R	12	14	-	26
22:15	WB GR L,R,RT	18	12	0	30
22:15	SB EXPO LT,LT/RT,RT	3	3	2	8
22:30	EB GR LT	4	-	-	4
22:30	EB GR L,R	12	9	-	21
22:30	WB GR L,R,RT	13	9	1	23
22:30	SB EXPO LT,LT/RT,RT	3	3	1	7
22:45	EB GR LT	1	-	-	1
22:45	EB GR L,R	4	7	-	11
22:45	WB GR L,R,RT	11	7	1	19
22:45	SB EXPO LT,LT/RT,RT	0	3	3	6
23:00	EB GR LT	0	-	-	0
23:00	EB GR L,R	5	3	-	8
23:00	WB GR L,R,RT	7	7	2	16
23:00	SB EXPO LT,LT/RT,RT	0	1	1	2
23:15	EB GR LT	2	-	-	2
23:15	EB GR L,R	8	2	-	10
23:15	WB GR L,R,RT	12	13	3	28
23:15	SB EXPO LT,LT/RT,RT	0	0	3	3
23:30	EB GR LT	0	-	-	0
23:30	EB GR L,R	4	5	-	9
23:30	WB GR L,R,RT	6	6	0	12
23:30	SB EXPO LT,LT/RT,RT	1	1	3	5
23:45	EB GR LT	2	-	-	2
23:45	EB GR L,R	10	5	-	15
23:45	WB GR L,R,RT	7	5	2	14
23:45	SB EXPO LT,LT/RT,RT	0	2	1	3
24:00	EB GR LT	0	-	-	0
24:00	EB GR L,R	0	4	-	4
24:00	WB GR L,R,RT	3	4	1	8
24:00	SB EXPO LT,LT/RT,RT	1	1	0	2

EB GR LT	AM peak	113	08:10 - 09:10	PM peak	144	14:10 - 15:10	Daily Total
871							
EB GR L,R	AM peak	1398	07:15 - 08:15	PM peak	663	16:45 - 17:45	Daily Total
10181							
WB GR L,R,RT	AM peak	745	08:10 - 09:10	PM peak	1252	16:35 - 17:35	Daily Total
10606							

SB EXPO LT,LT/RT,RTAM peak 111 11:00 - 12:00 PM peak 236 16:35 - 17:35 Daily
Total 1190

On Wednesday, 04 March 2020

OAKLAND COUNTY ROAD COMMISSION
TRAFFIC - SAFETY DEPARTMENT
SIGNAL WORK ORDER

LOCATION: Grand River & Beck DATE: 1-27-20

CITY/TOWNSHIP: NOVI BY: T CREECH

COUNTY#: 213 STATE#: - CHARGES: 00213G

PLEASE PERFORM THE FOLLOWING:

ELECTRICAL DEVICE: INSTALL MODERNIZE MAINTENANCE

UNDERGROUND: _____

EDISON OK: YES NO JOB#: _____

COORDINATE W/DISTRICT 7: _____

DIAL..	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4
SPLIT.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<input type="checkbox"/> CHANGE TIMING.....																
<input type="checkbox"/> CHANGE OFFSET.....																
<input type="checkbox"/> CHANGE CYCLE LENGTH.....																
<input type="checkbox"/> ADD DIAL/SPLIT.....																

CHANGE BREAKOUT OR EPROM: Change Pers → REV 11
(ALL RED, Ped times)

OLD: _____

NEW: _____

ROAD COMMISSION FOR
OAKLAND COUNTY

FEB 24 2020

TRAFFIC OPERATIONS

REPROGRAM TBC

INSTALL INTERCONNECT: TBC MINITROL TONE

MBT OK: YES NO

NO CHANGE - RECORD CORRECTION

OTHER: Requires a checksum change

APPROVED BY:  DATE: 2/18/20

DATE INSTALLED: 2/20/2020

INSTALLED BY: JAMES OBERTS

INTERSECTION :- 213 GRAND RIVER & BECK
DESCRIPTION PROMS :- X00020R / F4808
CONTROLLER TYPE :- STANDARD PERSONALITY CONTROLLER
SOFTWARE TYPE :- MOD 52 SCATS

INPUTS :-

- | | |
|-------------------------------|--|
| 1. NB BECK LT (LK) | 17. EB GRAND RIVER LT L (LK) (BACKPANEL VD1 101) |
| 2. NB BECK LT ADV (LK) | 18. EB GRAND RIVER LT ADV L (LK) (BACKPANEL VD2 109) |
| 3. NB BECK L (LK) | 19. EB GRAND RIVER LT R (LK) (BACKPANEL VD3 123) |
| 4. NB BECK R (LK) | 20. EB GRAND RIVER LT ADV R (LK) (BACKPANEL VD4 131) |
| 5. WB GRAND RIVER LT (LK) | 21. EB GRAND RIVER L (LK) (BACKPANEL VD5 145) |
| 6. WB GRAND RIVER LT ADV (LK) | 22. EB GRAND RIVER R (LK) (BACKPANEL VD6 153) |
| 7. WB GRAND RIVER L (LK) | 23. OPTICOM 2 (BACKPANEL VD7 167) |
| 8. WB GRAND RIVER R (LK) | 24. OPTICOM 1 (BACKPANEL VD8 175) |
| 9. WB GRAND RIVER RT (LK) | |
| 10. SB BECK LT L (LK) | |
| 11. SB BECK LT ADV L (LK) | |
| 12. SB BECK LT R (LK) | |
| 13. SB BECK LT ADV R (LK) | |
| 14. SB BECK L (LK) | |
| 15. SB BECK R (LK) | |
| 16. SB BECK RT (LK) | |

NOTE :- ALL DETECTORS ARE AUTOSCOPE
(2008 CAMERAS).

PED 2: GRAND RIVER PED NORTH P.B. (WA)
PED 4: BECK PED WEST P.B. (WB)
PED 6: GRAND RIVER PED SOUTH P.B. (WC)
PED 8: BECK PED EAST P.B. (WD)

APPROACHES :-

A APPR 1 : EB GRAND RIVER	A APPR 2 : WB GRAND RIVER
B APPR 1 : NB BECK LT	B APPR 2 : SB BECK LT
C APPR 1 : NB BECK	C APPR 2 : SB BECK
D APPR 1 : EB GRAND RIVER LT	D APPR 2 : WB GRAND RIVER LT

FLEXIDATA:-

SEQUENCE	A, B, C, D	A, B, C, D
AUTO REL		
R- REL	A	A
R+ REL	B	B
Q- REL	C	C
Q+ REL	D	D
LOOKAHEAD		

PEDESTRIANS:-

1. -
2. GRAND RIVER PED NORTH
3. -
4. BECK PED WEST
5. -
6. GRAND RIVER PED SOUTH
7. -
8. BECK PED EAST

SPECIAL FEATURES :-

The personality revision number is currently 11 (=K).

A STAGE HAS A PERMANENT DEMAND.
DEMAND FOR STAGES B, C, D IN FLEXI & ISOLATED. SET XSF8 (XL Value = 80) TO
DISABLE.

Night Flash code: Set Y+ to activate the night flash in Flexilink

Opticom 1 calls A stage. Opticom 2 calls C stage.

TSM15 EVP MINIMUM TIME
TSM16 EVP ALARM TIME

UPS on Standby Warning
MSS9 (bit \$10) is sent if UPS falls back to battery operation
Input used is detector 24

IN MASTERLINK AND FLEXILINK:

Z- ON CAUSES D1 TURN TO APPEAR AND HOLD IN D STAGE
Z+ ON CAUSES D2 TURN TO APPEAR AND HOLD IN D STAGE
Z- & Z+ ON CAUSES BOTH TURNS TO APPEAR AND HOLD IN D

B1-C O/L OR B2-C O/L MAY APPEAR IN B1 OR B2 RESPECTIVELY
HOWEVER IF THE OVERLAP TERMINATES IN B THEN THE C AMBER
AND C RED TIMES ARE USED FOR B STAGE

Set BT = nS in SCATS data to enable Z5 flag in B stage to C.
This allows termination of o/lap phase minimum timer if the
appropriate phase o/lap is to occur and C is next, otherwise
phase minimum is guaranteed by phase minimum timer.

BACKPANEL :- SIZE P44-12

LOAD SWITCH	1: EB GRAND RIVER LT	CL	FLR
	SB BECK RT (G,A)	BR	-
LOAD SWITCH	2: WB GRAND RIVER	A	FLR
LOAD SWITCH	3: NB BECK LT	DL	FLR
LOAD SWITCH	4: SB BECK	B	FLR
LOAD SWITCH	5: WB GRAND RIVER LT	AL	FLR
LOAD SWITCH	6: EB GRAND RIVER	C	FLR
LOAD SWITCH	7: SB BECK LT	BL	FLR
	WB GRAND RIVER RT (G,A)	AR	-
LOAD SWITCH	8: NB BECK	D	FLR
LOAD SWITCH	9: GRAND RIVER PED NORTH	WA	
LOAD SWITCH	10: BECK PED WEST	WB	
LOAD SWITCH	11: GRAND RIVER PED SOUTH	WC	
LOAD SWITCH	12: BECK PED EAST	WD	

JUMPERS :-

189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 207-208, 211-212,
213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 229-230, 233-234, 235-236,
237-238, 239-240, 241-242, 243-244, 245-246, 251-252, 255-256, 257-258, 259-260,
261-262, 263-264, 265-266, 267-268, 273-274, 298-302, 321-322, 323-324, 325-326,
327-328, 329-PB1, 334-335, 343-344, 345-346, 347-348, 349-350, 351-PB1, 356-357,
365-366, 367-368, 369-370, 371-372, 373-PB1, 378-379, 387-388, 389-390, 391-392,
393-394, 395-PB1, 400-401.

SIGNAL MONITOR :- 1-5, 1-6, 2-5, 2-6, 3-7, 3-8, 4-7, 4-8.

ALL SWITCHES OFF EXCEPT: DUAL SELECT A&B; G&Y ENABLE;

SSM 1, 2, 3, 4, 5, 6, 7, 8.

MINIMUM FLASH = 4+2+1.

* CONTROLLER INFORMATION SHEET *
* FOR SITE NO. 213 *
* T CREECH *
* DATE : 27-JAN-2020 *

CHECKSUMS
TIMES: 32 / 062
PERS: 4F / 117
TOTAL: 7D / 175

FLEXILINK PLAN DATA

Intersection # 213 **State #** _____ **Date:** 01/27/20 **Prepared By:** T. Creech
Intersection: Beck & Grand River **City:** Novi
Hours of Operation: 7 Days: 24 Hours **Approved By:** R. Jones
Hours of Flashing: None

		PL0	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8
0	CL		100	120	120					
1	A		0	0	0					
2	B		30	35	37					
3	C		48	55	59					
4	D		80	92	96					
5	E									
6	F									
7	G									
8	R-									
9	R+									
10	Y-		47	109	20					
11	Y+	C								
12	Z-									
13	Z+									
14	Q-									
15	Q+									
16	XH									
17	XL									

NOTE: Stages with 1 second of phase time are skipped. Blank entries are default values equal to 0. Except for an AWA controller, entries #8 to #15 (=254) and 'C' entry means continuous (=255).

Phase	Direction	Min	Max	ECO	Amber	All Red	Timers		
							Gap	Hdwy	Waste
A	Grand River	10.0	40.0		4.7	2.3	3.0	1.2	10.0
B	Beck LT	5.0	25.0		4.3	2.5	3.0	1.2	10.0
C	Beck	10.0	40.0		4.3	2.5	3.0	1.2	10.0
D	Grand River LT	5.0	25.0		4.7	2.3	3.0	1.2	10.0
E									
F									
G									

SC1	Day	Hours	Plan#
SC2	14	0:00	1
SC3	8	6:00	2
SC4	8	9:00	1
SC5	8	15:00	3
SC6	8	19:00	1
SC7			
SC8			
SC9			
SC10			

Pedestrian Crossing Times

Direction	Walk	CL 1	CL 2
Grand River Ped North (Ped 2)	7.0	24.0	4.0
Beck Ped West (Ped 4)	7.0	17.0	3.8
Grand River Ped South (Ped 6)	7.0	24.0	4.0
Beck Ped East (Ped 8)	7.0	22.0	3.8

TSM15 = Opticom Min Alarm Time = 30
TSM16 = Opticom Max Alarm Time = 200

Normal Operating Mode

Isolated	Flexilink	Masterlink	Master Isolated	Flexi Isolated
		X		

DAY OF WEEK CODE NUMBER

0	End of Schedule	4	WED	8	MON-FRI	12	MON,FRI,SAT
1	SUN	5	THUR	9	MON-SAT	13	SAT,SUN
2	MON	6	FRI	10	TUE,WED,THU	14	EVERY DAY
3	TUE	7	SAT	11	MON,FRI	15	NEVER

Autoscope 37-Pin Male Output Harness (33457G2) Wiring **Autoscope A**
CO#213
Autoscope Output Harness Pins #1 & #20 to Logic Common & Pins #18 & #37 to +24 VDC

Camera Number	EIM Switch Position	EIM LED#	Output Harness Pin#	D-Conn Pin (1,2,...)	Vehicle Detector No.		Detector Description	Phase No. (1,2,3,...)
					D-Conn format (9,10,...)	On Print (1,2,...)		
1	1	1	29	1	9	1	NB BECK LT	3
	1	2	30	2	10	2	NB BECK LT ADV	3
	1	3	31					
	1	4	32					
	1	5	33					
	1	6	34					
	1	7	35					
	1	8	36					
2	2	1	10	3	11	3	NB BECK L	8
	2	2	11	4	12	4	NB BECK R	8
	2	3	12					
	2	4	13					
	2	5	14					
	2	6	15					
	2	7	16					
	2	8	17					
3	3	1	21	5	13	5	WB GRAND RIVER LT	5
	3	2	22	6	14	6	WB GRAND RIVER LT ADV	5
	3	3	23					
	3	4	24					
	3	5	25					
	3	6	26					
	3	7	27					
	3	8	28					
4	4	1	2	7	15	7	WB GRAND RIVER L	2
	4	2	3	8	16	8	WB GRAND RIVER R	2
	4	3	4	9	17	9	WB GRAND RIVER RT	2
	4	4	5					
	4	5	6					
	4	6	7					
	4	7	8					
	4	8	9					

Autoscope 37-Pin Female Input Harness (33457G3) Wiring

EIM Switch Position	EIM LED#	Input Harness Pin#	Phase Status Input From +24 VDC	Backpanel Terminal Position and Number
5	1	29	Phase 8 Green	LS 8 Green 265
5	1	30	Phase 7 Green	
5	1	31	Phase 6 Green	
5	1	32	Phase 5 Green	LS 5 Green 237
5	1	33	Phase 4 Green	
5	1	34	Phase 3 Green	LS 3 Green 215
5	1	35	Phase 2 Green	LS 2 Green 199
5	1	36	Phase 1 Green	
6	2	10	Phase 8 Red	LS 8 Red 261
6	2	11	Phase 7 Red	
6	2	12	Phase 6 Red	
6	2	13	Phase 5 Red	LS 5 Red 233
6	2	14	Phase 4 Red	
6	2	15	Phase 3 Red	LS 3 Red 211
6	2	16	Phase 2 Red	LS 2 Red 195
6	2	17	Phase 1 Red	

Autoscope 37-Pin Male Output Harness (33457G2) Wiring **Autoscope B**
Autoscope Output Harness Pins #1 & #20 to Logic Common & Pins #18 & # 37 to +24 VDC **CO#213**

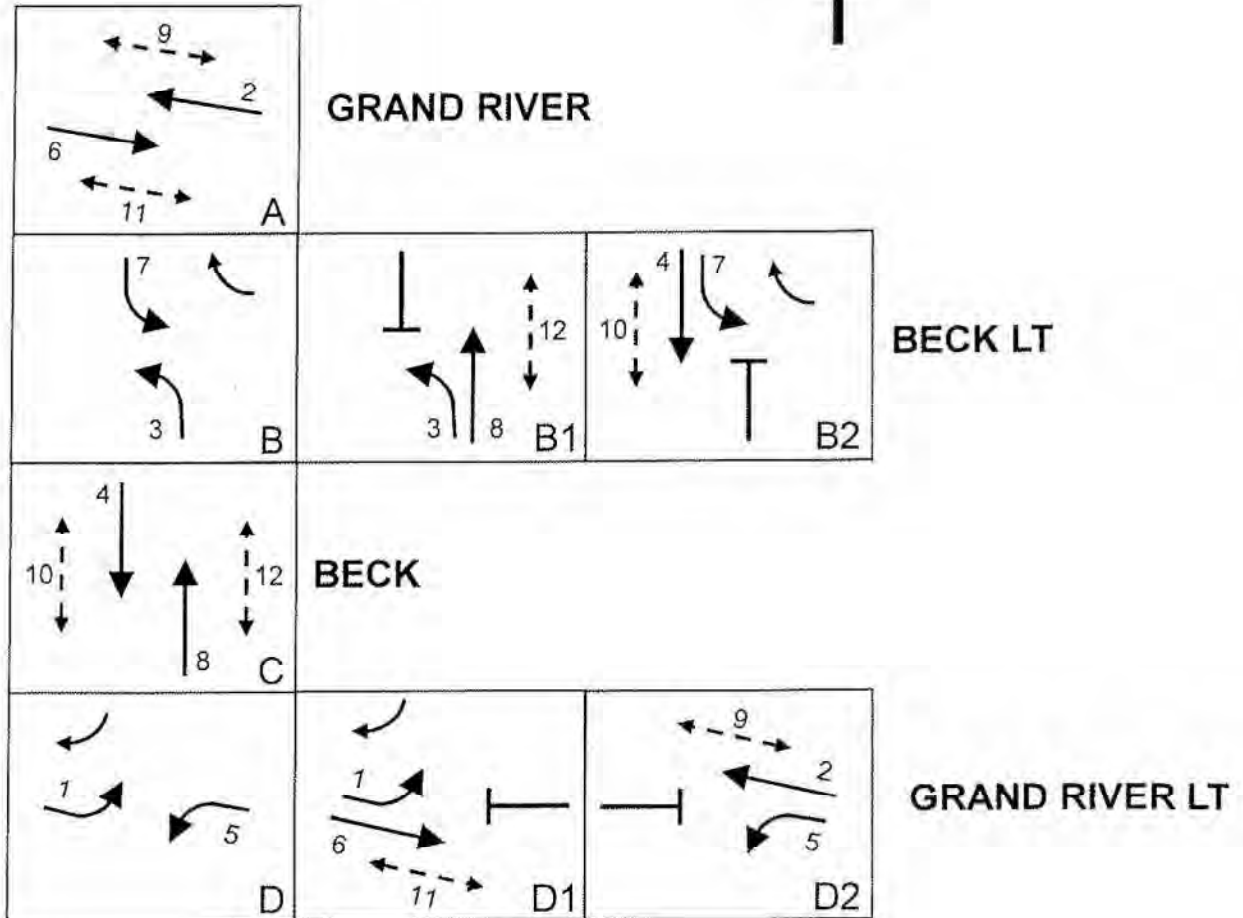
Camera Number	EIM Switch Position	EIM LED#	Output Harness Pin#	D-Conn Pin (1,2,..)	Vehicle Detector No.		Detector Description	Phase No (1,2,3,...)
					D-Conn format (9,10,...)	On Print (1,2,..)		
1	1	1	29	10	18	10	SB BECK LT L	7
	1	2	30	11	19	11	SB BECK LT ADV L	7
	1	3	31	12	20	12	SB BECK LT R	7
	1	4	32	13	21	13	SB BECK LT ADV R	7
	1	5	33					
	1	6	34					
	1	7	35					
	1	8	36					
2	2	1	10	14	22	14	SB BECK L	4
	2	2	11	15	23	15	SB BECK R	4
	2	3	12	16	24	16	SB BECK RT	4
	2	4	13					
	2	5	14					
	2	6	15					
	2	7	16					
	2	8	17					
3	3	1	21	BACKPANEL VD1 (101)		17	EB GRAND RIVER LT L	1
	3	2	22	BACKPANEL VD2 (109)		18	EB GRAND RIVER LT ADV L	1
	3	3	23	BACKPANEL VD3 (123)		19	EB GRAND RIVER LT R	1
	3	4	24	BACKPANEL VD4 (131)		20	EB GRAND RIVER LT ADV R	1
	3	5	25					
	3	6	26					
	3	7	27					
	3	8	28					
4	4	1	2	BACKPANEL VD5 (145)		21	EB GRAND RIVER L	6
	4	2	3	BACKPANEL VD6 (153)		22	EB GRAND RIVER R	6
	4	3	4					
	4	4	5					
	4	5	6					
	4	6	7					
	4	7	8					
	4	8	9					

Autoscope 37-Pin Female Input Harness (33457G3) Wiring

EIM Switch Position	EIM LED#	Input Harness Pin#	Phase Status Input From +24 VDC	Backpanel Terminal Position and Number
5	1	29	Phase 8 Green	
5	1	30	Phase 7 Green	LS 7 Green 259
5	1	31	Phase 6 Green	LS 6 Green 243
5	1	32	Phase 5 Green	
5	1	33	Phase 4 Green	LS 4 Green 221
5	1	34	Phase 3 Green	
5	1	35	Phase 2 Green	
5	1	36	Phase 1 Green	LS 1 Green 193
6	2	10	Phase 8 Red	
6	2	11	Phase 7 Red	LS 7 Red 255
6	2	12	Phase 6 Red	LS 6 Red 239
6	2	13	Phase 5 Red	
6	2	14	Phase 4 Red	LS 4 Red 217
6	2	15	Phase 3 Red	
6	2	16	Phase 2 Red	
6	2	17	Phase 1 Red	LS 1 Red 189

#213 – GRAND RIVER & BECK

• Movement Diagram

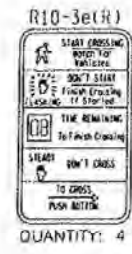


811

Know what's below. Call before you dig.

APPROACH SPEEDS:

N.B.D.	65 MPH
E.B.D.	50 MPH
W.B.D.	50 MPH
S.B.D.	40 MPH



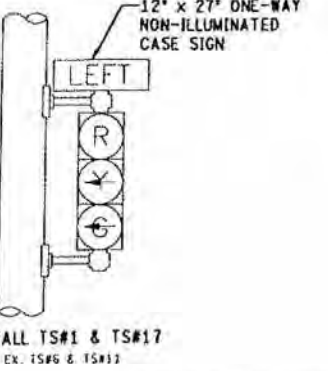
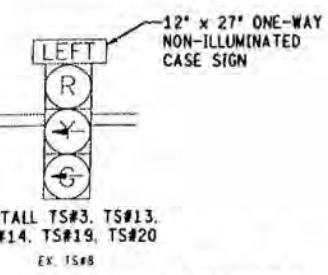
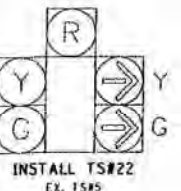
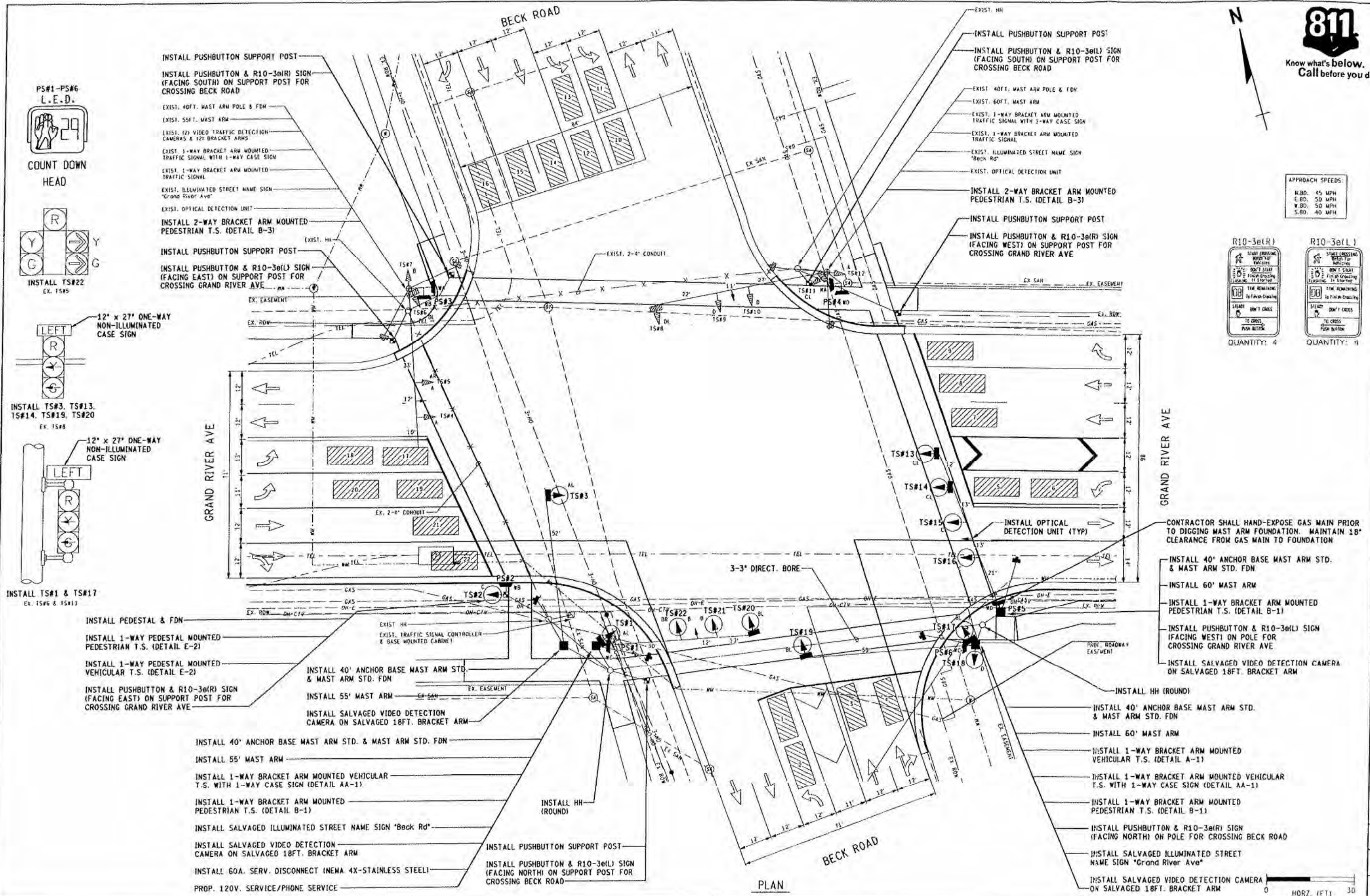
FILE: BECK, GR., PLANDON
AUTH: DATE: REVISION:

URS
Surface Transportation
Grand Rapids, Southeastern
Traverse City



GRAND RIVER AVE - DUAL LEFT TURN LANE
TRAFFIC SIGNAL PLAN

JOB	120576
DATE	6/2/2015
SHEET	23



- INSTALL PUSHBUTTON SUPPORT POST
- INSTALL PUSHBUTTON & R10-3e(R) SIGN (FACING SOUTH) ON SUPPORT POST FOR CROSSING BECK ROAD
- EXIST. 40FT. MAST ARM POLE & FDN
- EXIST. 55FT. MAST ARM
- EXIST. 12" VIDEO TRAFFIC DETECTION CAMERAS & 12" BRACKET ARMS
- EXIST. 1-WAY BRACKET ARM MOUNTED TRAFFIC SIGNAL WITH 1-WAY CASE SIGN
- EXIST. 1-WAY BRACKET ARM MOUNTED TRAFFIC SIGNAL
- EXIST. ILLUMINATED STREET NAME SIGN "Grand River Ave"
- EXIST. OPTICAL DETECTION UNIT
- INSTALL 2-WAY BRACKET ARM MOUNTED PEDESTRIAN T.S. (DETAIL B-3)
- INSTALL PUSHBUTTON SUPPORT POST
- INSTALL PUSHBUTTON & R10-3e(L) SIGN (FACING EAST) ON SUPPORT POST FOR CROSSING GRAND RIVER AVE

- INSTALL PUSHBUTTON SUPPORT POST
- INSTALL PUSHBUTTON & R10-3e(L) SIGN (FACING SOUTH) ON SUPPORT POST FOR CROSSING BECK ROAD
- EXIST. 40FT. MAST ARM POLE & FDN
- EXIST. 60FT. MAST ARM
- EXIST. 1-WAY BRACKET ARM MOUNTED TRAFFIC SIGNAL WITH 1-WAY CASE SIGN
- EXIST. 1-WAY BRACKET ARM MOUNTED TRAFFIC SIGNAL
- EXIST. ILLUMINATED STREET NAME SIGN "Beck Rd"
- EXIST. OPTICAL DETECTION UNIT
- INSTALL 2-WAY BRACKET ARM MOUNTED PEDESTRIAN T.S. (DETAIL B-3)
- INSTALL PUSHBUTTON SUPPORT POST
- INSTALL PUSHBUTTON & R10-3e(R) SIGN (FACING WEST) ON SUPPORT POST FOR CROSSING GRAND RIVER AVE

- CONTRACTOR SHALL HAND-EXPOSE GAS MAIN PRIOR TO DIGGING MAST ARM FOUNDATION. MAINTAIN 18" CLEARANCE FROM GAS MAIN TO FOUNDATION
- INSTALL 40' ANCHOR BASE MAST ARM STD. & MAST ARM STD. FDN
- INSTALL 60' MAST ARM
- INSTALL 1-WAY BRACKET ARM MOUNTED PEDESTRIAN T.S. (DETAIL B-1)
- INSTALL PUSHBUTTON & R10-3e(L) SIGN (FACING WEST) ON POLE FOR CROSSING GRAND RIVER AVE
- INSTALL SALVAGED VIDEO DETECTION CAMERA ON SALVAGED 18FT. BRACKET ARM

- INSTALL PEDESTAL & FDN
- INSTALL 1-WAY PEDESTAL MOUNTED PEDESTRIAN T.S. (DETAIL E-2)
- INSTALL 1-WAY PEDESTAL MOUNTED VEHICULAR T.S. (DETAIL E-2)
- INSTALL PUSHBUTTON & R10-3e(R) SIGN (FACING EAST) ON SUPPORT POST FOR CROSSING GRAND RIVER AVE
- INSTALL 40' ANCHOR BASE MAST ARM STD. & MAST ARM STD. FDN
- INSTALL 55' MAST ARM
- INSTALL 1-WAY BRACKET ARM MOUNTED VEHICULAR T.S. WITH 1-WAY CASE SIGN (DETAIL AA-1)
- INSTALL 1-WAY BRACKET ARM MOUNTED PEDESTRIAN T.S. (DETAIL B-1)
- INSTALL SALVAGED ILLUMINATED STREET NAME SIGN "Beck Rd"
- INSTALL SALVAGED VIDEO DETECTION CAMERA ON SALVAGED 18FT. BRACKET ARM
- INSTALL 60A. SERV. DISCONNECT (NEMA 4X-STAINLESS STEEL)
- PROP. 120V. SERVICE/PHONE SERVICE

- INSTALL 40' ANCHOR BASE MAST ARM STD. & MAST ARM STD. FDN
- INSTALL 55' MAST ARM
- EXIST. TRAFFIC SIGNAL CONTROLLER & BASE MOUNTED CABINET
- INSTALL SALVAGED VIDEO DETECTION CAMERA ON SALVAGED 18FT. BRACKET ARM
- INSTALL HH (ROUND)
- INSTALL PUSHBUTTON SUPPORT POST
- INSTALL PUSHBUTTON & R10-3e(L) SIGN (FACING NORTH) ON SUPPORT POST FOR CROSSING BECK ROAD

- INSTALL HH (ROUND)
- INSTALL 40' ANCHOR BASE MAST ARM STD. & MAST ARM STD. FDN
- INSTALL 60' MAST ARM
- INSTALL 1-WAY BRACKET ARM MOUNTED VEHICULAR T.S. (DETAIL A-1)
- INSTALL 1-WAY BRACKET ARM MOUNTED VEHICULAR T.S. WITH 1-WAY CASE SIGN (DETAIL AA-1)
- INSTALL 1-WAY BRACKET ARM MOUNTED PEDESTRIAN T.S. (DETAIL B-1)
- INSTALL PUSHBUTTON & R10-3e(R) SIGN (FACING NORTH) ON POLE FOR CROSSING BECK ROAD
- INSTALL SALVAGED ILLUMINATED STREET NAME SIGN "Grand River Ave"
- INSTALL SALVAGED VIDEO DETECTION CAMERA ON SALVAGED 18FT. BRACKET ARM

OAKLAND COUNTY ROAD COMMISSION
TRAFFIC - SAFETY DEPARTMENT
SIGNAL WORK ORDER

LOCATION: Grand River + Taft DATE: 1/25/11

CITY/TOWNSHIP: Novi BY: C. Markel

COUNTY#: 528 STATE#: — CHARGES: 7800 5280

PLEASE PERFORM THE FOLLOWING:

 ELECTRICAL DEVICE: INSTALL MODERNIZE MAINTENANCE

 UNDERGROUND: _____

 EDISON OK: YES NO JOB#: _____

 COORDINATE W/DISTRICT 7: _____

DIAL..	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4
SPLIT:	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CHANGE TIMING.....																
CHANGE OFFSET.....																
CHANGE CYCLE LENGTH.....																
ADD DIAL/SPLIT.....																

CHANGE BREAKOUT OR EPROM: Change Personality → Rev#2

 CHANGE HOURS OF OPERATION:

OLD: _____

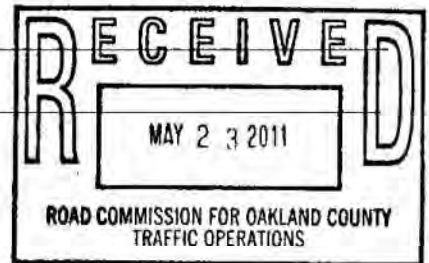
NEW: _____

 REPROGRAM TBC

 INSTALL INTERCONNECT: TBC MINITROL TONE

 MBT OK: YES NO

 NO CHANGE - RECORD CORRECTION



OTHER: Requires a checksum change. Swap out existing 2070 SCATS controller w/ a MOD 52 SCATS controller. Swap out d-connector. Hook up existing cameras (solo pro) per Autoscope sheet.

APPROVED BY: [Signature] DATE: 5/2/11

DATE INSTALLED: 5-19-11

INSTALLED BY: Dave

INTERSECTION :- 528 GRAND RIVER & TAFT
DESCRIPTION PROMS :- X00528D / F4808
CONTROLLER TYPE :- STANDARD PERSONALITY CONTROLLER
SOFTWARE TYPE :- MOD 52 SCATS

INPUTS :-

- | | |
|-------------------------------------|---|
| 1. NB TAFT LT PRES (LK) | 17. NOTE :- ALL DETECTORS ARE AUTOSCOPE |
| 2. NB TAFT LT ADV PRES (LK) | 18. - (SOLO PRO CAMERAS). |
| 3. NB TAFT PRES (LK) | 19. - |
| 4. WB GRAND RIVER LT PRES (NL) | 20. - |
| 5. WB GRAND RIVER LT ADV PRES (NL) | 21. - |
| 6. WB GRAND RIVER L PRES (LK) | 22. - |
| 7. WB GRAND RIVER R PRES (LK) | 23. Opticom 2 (BACKPANEL 167) |
| 8. SB TAFT LT PRES (LK) | 24. Opticom 1 (BACKPANEL 175) |
| 9. SB TAFT LT ADV PRES (LK) | |
| 10. SB TAFT PRES (LK) | |
| 11. EB GRAND RIVER LT PRES (NL) | |
| 12. EB GRAND RIVER LT ADV PRES (NL) | |
| 13. EB GRAND RIVER L PRES (LK) | |
| 14. EB GRAND RIVER R PRES (LK) | |
| 15. - | |
| 16. - | |

PED 2: GRAND RIVER PED NORTH P.B. (WA)
PED 4: TAFT PED WEST P.B. (WB)
PED 6: GRAND RIVER PED SOUTH P.B. (WC)
PED 8: TAFT PED EAST P.B. (WD)

APPROACHES :-

A APPR 1 : WB GRAND RIVER L,R	A APPR 2 : EB GRAND RIVER L,R
B APPR 1 : WB GRAND RIVER LT ,ADV	B APPR 2 : EB GRAND RIVER LT ,ADV
C APPR 1 : NB TAFT	C APPR 2 : SB TAFT
D APPR 1 : NB TAFT LT ,ADV	D APPR 2 : SB TAFT LT ,ADV

FLEXIDATA :-

SEQUENCE A,B,C,D	A,B,C,D
AUTO REL	
R- REL B	B
R+ REL C	C
Q- REL D	D
Q+ REL	
LOOKAHEAD	

PEDESTRIANS :-

1. NO PED 1
2. GRAND RIVER PED NORTH (P-)
3. NO PED 3
4. TAFT PED WEST (P+)
5. NO PED 5
6. GRAND RIVER PED SOUTH (P-)
7. NO PED 7
8. TAFT PED EAST (P+)

SPECIAL FEATURES :-

The personality revision number is currently 2 (=B).

A STAGE HAS PERMANENT DEMAND.

DEMAND FOR STAGES B, C, D IN FLEXI AND ISOL, SET ZNEG TO DISABLE.

Ped GRAND RIVER PED NORTH introduction is suppressed when OPTICOM is active.

Ped TAFT PED WEST introduction is suppressed when OPTICOM is active.

Ped GRAND RIVER PED SOUTH introduction is suppressed when OPTICOM is active.

Ped TAFT PED EAST introduction is suppressed when OPTICOM is active.

EB GRAND RIVER LT has flashing red display (filter) in A stage(s).

NB TAFT LT has flashing red display (filter) in C stage(s).

WB GRAND RIVER LT has flashing red display (filter) in A stage(s).

SB TAFT LT has flashing red display (filter) in C stage(s).

Opticom 1 calls A stage. Opticom 2 calls C stage.

†

* BACKPANEL :- SIZE P44-12 CABINET

LOAD SWITCH 1 -EB GRAND RIVER LT	CL	FLR
LOAD SWITCH 2 -WB GRAND RIVER	A	FLA
LOAD SWITCH 3 -NB TAFT LT	DL	FLR
LOAD SWITCH 4 -SB TAFT	B	FLR
LOAD SWITCH 5 -WB GRAND RIVER LT	AL	FLR
LOAD SWITCH 6 -EB GRAND RIVER	C	FLA
LOAD SWITCH 7 -SB TAFT LT	BL	FLR
LOAD SWITCH 8 -NB TAFT	D	FLR
LOAD SWITCH 9 -GRAND RIVER PED NORTH	WA	
LOAD SWITCH 10-TAFT PED WEST	WB	
LOAD SWITCH 11-GRAND RIVER PED SOUTH	WC	
LOAD SWITCH 12-TAFT PED EAST	WD	

JUMPERS :-

189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 207-208, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 229-230, 233-234, 235-236, 237-238, 239-240, 241-242, 243-244, 245-246, 251-252, 255-256, 257-258, 259-260, 261-262, 263-264, 265-266, 267-268, 273-274, 321-322, 323-324, 325-326, 327-328, 334-335, 343-344, 345-346, 347-348, 349-350, 356-357, 365-366, 367-368, 369-370, 371-372, 378-379, 387-388, 389-390, 391-392, 393-394, 329-PB1, 351-PB1, 373-PB1, 395-PB1, 400-401, 298-302.

SIGNAL MONITOR :- 1-5, 2-6, 3-7, 4-8.

All switches OFF EXCEPT: Dual Select A&B; G&Y Enable; SSM 1, 2, 3, 4, 5, 6, 7, 8.

Minimum Flash = 4 + 2 + 1.

```

*****
* CONTROLLER INFORMATION SHEET *
*   FOR SITE NO.   528   *
*   CARISSA MARKEL   *
*   DATE :- 25-JAN-2011 *
*****
CHECKSUMS:
TIMES: EE/356
PERS:  34/064
TOTAL: DA/332

```

FLEXILINK PLAN DATA

Intersection # 528 **State #** _____ **Date:** 01/25/11 **Prepared By:** Carissa Markel
Intersection: Grand River & Taft **City:** Novi
Hours of Operation: 7 Days: 24 Hours **Approved By:** Rachel Jones
Hours of Flashing: None

		PL0	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8
0	CL		90	120	120					
1	A		0	0	0					
2	B		50	78	78					
3	C		60	90	90					
4	D		80	110	110					
5	E									
6	F									
7	G									
8	R-									
9	R+									
10	Of (Y-)		0	73	85					
11	Y+	C								
12	Z-									
13	Z+									
14	Q-									
15	Q+									
16	XH									
17	XL									

NOTE: Stages with 1 second of phase time are skipped. Blank entries are default values equal to 0. Except for an AWA controller, entries #8 to #15 (=254) and 'C' entry means continuous (=255).

Phase	Direction	Min	Max	ECO	Amber	All Red	Timers		
							Gap	Hdwy	Waste
A	Grand River	10.0	40.0		4.7	1.8	3.0	1.2	6.0
B	Grand River LT	3.0	15.0		4.7	1.8	3.0	1.2	6.0
C	Taft	8.0	25.0		3.9	1.9	3.0	1.2	6.0
D	Taft LT	3.0	15.0		3.9	1.9	3.0	1.2	6.0
E									
F									
G									

	Day	Hours	Plan#
SC1	14	0:00	1
SC2	8	6:00	2
SC3	8	9:00	1
SC4	8	15:00	3
SC5	8	19:00	1
SC6	13	10:00	2
SC7	13	18:00	1
SC8			
SC9			
SC10			

Pedestrian Crossing Times

Direction	Walk	CL 1	CL 2
Grand River Ped North (Ped 2)	7.0	13.0	4.7
Taft Ped West (Ped 4)	7.0	14.0	3.9
Grand River Ped South (Ped 6)	7.0	13.0	4.7
Taft Ped East (Ped 8)	7.0	14.0	3.9

Normal Operating Mode

Isolated	Flexilink	Masterlink	Master Isolated	Flexi Isolated
		X		

DAY OF WEEK CODE NUMBER

0	End of Schedule	4	WED	8	MON-FRI	12	MON,FRI,SAT
1	SUN	5	THUR	9	MON-SAT	13	SAT,SUN
2	MON	6	FRI	10	TUE,WED,THU	14	EVERY DAY
3	TUE	7	SAT	11	MON,FRI	15	NEVER

Autoscope SOLO

#528

AUTOSCOPE

'A'

Mini-Hub II Detector Port Master Front Panel Input/Output Pin Assignment

The Mini-Hub II has inputs and outputs available through the front panel Input/ Output connector and through the back edge connector. The pin assignments for the Mini-Hub II front connector are listed in the following table. Edge connector pins are identified by **NUMBER** on the component (front) side of the board. Edge connector pins are identified by **LETTER** on the backside of board.

Cam #	Mini-Hub II conn.	Edge conn.	Front Harness	Description	D-Conn. Term #	D-Conn. Detector Descript.	On Print Detector number	Phase
1	Output 1 LED	F	1	NB Taft LT	9	1	1	3
1	Output 2 LED	W	14	NB Taft LT ADV	10	2	2	3
1	Output 3 LED	S	2	NB Taft Thru	11	3	3	8
2	Output 4 LED	Y	15	WB Grand River LT	12	4	4	5
2	Output 5 LED	(JP1)4	3	WB Grand River LT ADV	13	5	5	5
3	Output 6 LED	(JP7)5	16	WB Grand River Thru L	14	6	6	2
3	Output 7 LED	(JP2)8	4	WB Grand River Thru R	15	7	7	2
	Output 8 LED	(JP8)9	17					
	Output 9 LED	(JP3)13	5	NOTE: CAMERAS 1 & 2 ARE ON 4-CHANNEL				
	Output 10 LED	(JP9)14	18	INTERFACE PANEL & CAMERA 3				
	Output 11 LED	(JP4)17	6	IS ON SINGLE INTERFACE PANEL.				
	Output 12 LED	(JP10)18	19					
	Output 13 LED		7					
	Output 14 LED		20					
	Output 15 LED		8					
	Output 16 LED		21					
	Input 1 LED	(JP5)1	9					
	Input 2 LED	(JP11)2	22	LS 2 red 195				
	Input 3 LED	(JP6)3	10	LS 3 red 211				
	Input 4 LED	(JP12)10	23					
	Input 5 LED		11	LS 5 red 233				
	Input 6 LED		24					
	Input 7 LED		12					
	Input 8 LED	(with JP14*)	25	LS 8 red 261				

*Input 8 with JP14 inserted becomes 24VDC through Input/ Output Connector on front panel. Logic Ground is the GREY (pin 13) wire form Input/ Output connector on front panel.

Autoscope SOLO

528

AUTOSCOPE

'B'

Mini-Hub II Detector Port Master Front Panel Input/Output Pin Assignment

The Mini-Hub II has inputs and outputs available through the front panel Input/ Output connector and through the back edge connector. The pin assignments for the Mini-Hub II front connector are listed in the following table. Edge connector pins are identified by **NUMBER** on the component (front) side of the board. Edge connector pins are identified by **LETTER** on the backside of board.

am #	Mini-Hub II conn.	Edge conn.	Front Harness	Description	D-Conn. Term #	D-Conn. Detector Descript.	On Print Detector number	Phase
1	Output 1 LED	F	1	SB TAFT LT	16	8	8	7
1	Output 2 LED	W	14	SB TAFT LT ADV	17	9	9	7
1	Output 3 LED	S	2	SB TAFT THRU	18	10	10	4
2	Output 4 LED	Y	15	EB GRAND RIVER LT	19	11	11	1
2	Output 5 LED	(JP1)4	3	EB GRAND RIVER LT ADV	20	12	12	1
3	Output 6 LED	(JP7)5	16	EB GRAND RIVER THRU L	21	13	13	6
3	Output 7 LED	(JP2)8	4	EB GRAND RIVER THRU R	22	14	14	6
	Output 8 LED	(JP8)9	17					
	Output 9 LED	(JP3)13	5	NOTE: CAMERAS 1 & 2 ARE	ON 4 CHANNEL			
	Output 10 LED	(JP9)14	18	INTERFACE PANEL	& CAMERA 3 IS			
	Output 11 LED	(JP4)17	6	ON SINGLE INTERFACE	PANEL.			
	Output 12 LED	(JP10)18	19					
	Output 13 LED		7					
	Output 14 LED		20					
	Output 15 LED		8					
	Output 16 LED		21					
	Input 1 LED	(JP5)1	9	LS 1 RED 189				
	Input 2 LED	(JP11)2	22					
	Input 3 LED	(JP6)3	10					
	Input 4 LED	(JP12)10	23	LS 4 RED 217				
	Input 5 LED		11					
	Input 6 LED		24	LS 6 RED 239				
	Input 7 LED		12	LS 7 RED 255				
	Input 8 LED	(with JP14*)	25					

*Input 8 with JP14 inserted becomes 24VDC through Input/ Output Connector on front panel. Logic Ground is the GREY (pin 13) wire form Input/ Output connector on front panel.

Chapter 5

Connecting Solo MVP Power and Communications Cables

Usually, the Solo cable (the "pigtail" cable from the Solo MVP) is spliced to a Branch Cable, either in a junction box or in the hand-hole at the pole base. The Branch cable runs from the splice point to the cabinet, and terminates to the ACIP. Use the chart below (copy the blank table provided in Appendix A) to record which pairs of the Solo cable are spliced to the Branch cable pairs. For Branch cable lengths of 300 ft or less, a separate cable to power the Solo Pro is not normally necessary.

Be sure to use splicing methods and materials appropriate for low voltage communications splicing. When splicing is completed, properly seal the splice.

When the branch cables are brought into the cabinet, label each cable, starting with cable 1 from the Solo MVP viewing Phases 2 and 5, and working clockwise around the intersection, labeling cables 2, 3, and 4.

Terminate the cables to the ACIP in the same order. Taking care to assign the Sensor numbers (in the Autoscope Properties Editor) in the same order as the cables are terminated will facilitate easier maintenance and troubleshooting.

An example is shown in the table below. In this example, a separate power cable is shown. In installations where a 6-pair branch cable is used, power and communications are usually combined in one cable.

A blank copy of this table is provided for duplication in Appendix A.

DRAIN WIRE of Solo MVP to WHT of GRN/WHT pair then at CABINET WHT to shield of BRANCH CABLE

and to Ground Lug in INTERFACE PANEL.

Solo System-Wide Interconnections

Duplicate the following table to keep track of all Solo MVP connections:

Solo MVP <small>(wire in wire number)</small>			Branch Power Cable <small>(wire in wire color)</small>	Branch Communications Cable <small>(wire in wire color)</small>			Communications Interface Panel	
PIN	PAIR COLOR	WIRE COLOR	WIRE COLOR	PAIR	PAIR COLOR	WIRE COLOR	SIGNAL	TERMINAL
A	BRN/BLK	* BRN *	BRN		BRN/WHT	BRN	24V PWR	1
B	BRN/BLK	* BLK *	WHT		BRN/WHT	WHT	24V RTN	2
N	---	* GRN/YEL *	GRN		GRN/WHT	GRN	EARTH GND	3
P	BLU/BLK	BLU	BLU	1	BLU/WHT	BLU	SUP RX+	4
U	BLU/BLK	BLK	WHT	1	BLU/WHT	WHT	SUP RX-	5
D	RED/BLK	RED	RED	2	RED/BLU	RED	SUP TX+	6
R	RED/BLK	BLK	BLU	2	RED/BLU	BLU	SUP TX-	7
F	YEL/BLK	YEL	ORG	3	ORG/WHT	ORG	DET+	8
E	YEL/BLK	BLK	WHT	3	ORG/WHT	WHT	DET-	9
J	WHT/BLK	WHT	GREY	4	GREY/WHT	GREY	VIDEO+	10
H	WHT/BLK	BLK	WHT	4	GREY/WHT	WHT	VIDEO-	11

* IS SEPARATE POWER FEED

BRN - BLK
BLK - WHT
GRN/YEL - RED

OAKLAND COUNTY ROAD COMMISSION
TRAFFIC - SAFETY DEPARTMENT
SIGNAL WORK ORDER

LOCATION: Grand River + Suburban Collection shampale DATE: 2/6/17

CITY/TOWNSHIP: Novi BY: C. Markel

COUNTY#: 1224 STATE#: — CHARGES: 53391-0981 (MATERIALS)
53391-0989 (LABOR)

PLEASE PERFORM THE FOLLOWING:

— ELECTRICAL DEVICE: — INSTALL — MODERNIZE — MAINTENANCE

— UNDERGROUND: _____

— EDISON OK: — YES — NO JOB#: _____

— COORDINATE W/DISTRICT 7: _____

DIAL..	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4
SPLIT.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CHANGE TIMING.....																
CHANGE OFFSET.....																
CHANGE CYCLE LENGTH.....																
ADD DIAL/SPLIT.....																

X CHANGE BREAKOUT OR EPROM: Change Personal: 4 → Rev#4
(flexi plan, schedules, ped times, waste times, del alarm rat)

— CHANGE HOURS OF OPERATION: _____

OLD: _____

NEW: _____

— REPROGRAM TBC

FEB 10 2017

— INSTALL INTERCONNECT: — TBC — MINITROL — TONE

— MBT OK: — YES — NO

— NO CHANGE - RECORD CORRECTION

X OTHER: Upgrade current Mod 52 SCATS controller to version 530
(if needed). Install + hook up wireless digi. Remove modem +
phone jack. Requires a checksum change.

APPROVED BY: [Signature] DATE: 2/8/17

DATE INSTALLED: 2/8/17

INSTALLED BY: Dave Richardson

INTERSECTION :- 1224 GRAND RIVER & SUBURBAN COLLECTION SHOWPLACE (W/O TAFT)
DESCRIPTION PROMS :- X01224D / F4806
CONTROLLER TYPE :- STANDARD PERSONALITY CONTROLLER
SOFTWARE TYPE :- MOD 52 SCATS

INPUTS :-

1. SB SUBURBAN SHOWPLACE LT (LK)	17. NOTE :- ALL DETECTORS ARE AUTOSCOPE
2. SB SUBURBAN SHOWPLACE C (LK)	18. (SOLO PRO CAMERAS).
3. SB SUBURBAN SHOWPLACE RT (LK, 3SEC)	19. -
4. EB GRAND RIVER LT TIMED (NL, 3SEC)	20. -
5. EB GRAND RIVER LT ADV TIMED (NL, 3SEC)	21. -
6. EB GRAND RIVER L PRES (LK)	22. -
7. EB GRAND RIVER R PRES (LK)	23. Opticom 2 (BACKPANEL VD7-167)
8. WB GRAND RIVER L PRES (LK)	24. Opticom 1 (BACKPANEL VD8-175)
9. WB GRAND RIVER R PRES (LK)	
10. WB GRAND RIVER RT PRES (LK)	
11. -	
12. -	
13. -	
14. -	
15. -	
16. -	

PED 2: WB GRAND RIVER PED NORTH P.B.

PED 4: SB SUBURBAN SHOWPLACE PED EAST P.B.

APPROACHES :-

A APPR 1 : EB GRAND RIVER L,R	A APPR 2 : WB GRAND RIVER L,R,RT
C APPR 1 : SB SUBURBAN SHOWPLACE LT,C,RT	
D APPR 1 : EB GRAND RIVER LT,LT ADV	

FLEXIDATA :-

SEQUENCE A,B,C,D	A,B,C,D
AUTO REL	
R- REL C	C
R+ REL D	D
Q- REL	
Q+ REL	
LOOKAHEAD A	A

PEDESTRIANS :-

1. NO PED 1
2. WB GRAND RIVER PED NORTH (P-)
3. NO PED 3
4. SB SUBURBAN SHOWPLACE PED EAST (P+)
5. NO PED 5
6. NO PED 6
7. NO PED 7
8. NO PED 8

SPECIAL FEATURES :-

The personality revision number is currently 4 (=D).

A STAGE HAS PERMANENT DEMAND.
DEMAND FOR C,D STAGES IN FLEXI & ISOL.

PED 4 CALL - RUNS ABD (FLEXI-ISOL)
NO PED 4 CALL - RUNS ACD (FLEXI)

Opticom 1 calls A stage. Opticom 2 calls C stage.

BACKPANEL :- SIZE P44-12 CABINET		
LOAD SWITCH 1 - EB GRAND RIVER LT (G,A)	BL	-
LOAD SWITCH 2 - WB GRAND RIVER	A	FLA
LOAD SWITCH 4 - SB EXPO DRIVE RT (G,A)	CR	-
LOAD SWITCH 5 - WB GRAND RIVER RT (G,A)	AR	-
LOAD SWITCH 6 - EB GRAND RIVER	B	FLA
LOAD SWITCH 7 - SB EXPO DRIVE LT	C	FLR
LOAD SWITCH 9 - WB GRAND RIVER PED NORTH	WA	
LOAD SWITCH 10- SB SUBURBAN SHOWPLACE PED EAST	WD	

JUMPERS :-
191-192,193-194,195-196,197-198,199-200,201-202,207-208,219-220,221-222,
223-224,229-230,235-236,237-238,239-240,241-242,243-244,255-256,257-258,
259-260,298-302,321-PB1,323-324,325-326,327-328,329-PB1,334-335,343-PB1,
347-PB1,349-350,351-PB1,356-357,365-PB1,367-368,369-370,371-372,373-PB1,
387-388,389-390,391-PB1,395-PB1.

SIGNAL MONITOR :- 1-4,1-6,2-6,4-5,4-6,4-7,5-7.
All switches OFF EXCEPT: Dual Select A&B; G&Y Enable; SSM 2,6,7.
Minimum Flash = 4 + 2 + 1.

* CONTROLLER INFORMATION SHEET *		<u>CHECKSUMS</u>
* FOR SITE NO. 1224 *		TIMES: 04/004
* CARISSA MARKEL *		PERS: 7C/174
* DATE :- 06-FEB-2017 *		TOTAL: 78/170

FLEXILINK PLAN DATA

Intersection # 1224 State # _____ Date: 02/06/17 Prepared By: Carissa Markel

Intersection: Grand River & Suburban Collection Showplace Dr (w/o Taft) City: Novi

Hours of Operation: 7 Days: 6am - 12am (Midnight) Approved By: Rachel Jones

Hours of Flashing: 7 days: 12am (Midnight) - 6am - Operates during Events ONLY

		PL0	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8
0	CL		100	120	120					
1	A		0	0	0					
2	B		54	74	74					
3	C		55	75	75					
4	D		83	105	105					
5	E									
6	F									
7	G									
8	R-									
9	R+									
10	Of (Y-)		0	43	85					
11	Y+	C								
12	Z-									
13	Z+									
14	Q-									
15	Q+									
16	XH									
17	XL									

NOTE: Stages with 1 second of phase time are skipped. Blank entries are default values equal to 0. Except for an AWA controller, entries #8 to #15 (=254) and 'C' entry means continuous (=255).

Phase	Direction	Min	Max	ECO	Amber	All Red	Timers		
							Gap	Hdwy	Waste
A	Grand River	10.0	60.0		4.7	1.8	3.0	1.2	10.0
B	Showplace Dr & Ped East Leg	2.0	20.0		3.5	2.5			
C	Showplace Dr	5.0	20.0		3.5	2.5	3.0	1.2	10.0
D	EB Grand River Thru & LT	5.0	20.0		4.7	1.8	3.0	1.2	10.0
E									
F									
G									

	Day	Hours	Plan#
SC1	14	0:00	0
SC2	8	6:00	2
SC3	8	9:00	1
SC4	8	15:00	3
SC5	8	19:00	1
SC6	13	6:00	1
SC7	13	9:00	2
SC8	13	18:00	1
SC9	Signal operates during events only		
SC10			

Pedestrian Crossing Times

Direction	Walk	CL 1	CL 2
WB Grand River Ped North (Ped 2)	7.0	17.0	3.5
SB Suburban Showplace Ped East (Ped	7.0	16.0	3.0

Normal Operating Mode

Isolated	Flexilink	Masterlink	Master Isolated	Flexi Isolated
		X		

DAY OF WEEK CODE NUMBER

0	End of Schedule	4	WED	8	MON-FRI	12	MON,FRI,SAT
1	SUN	5	THUR	9	MON-SAT	13	SAT,SUN
2	MON	6	FRI	10	TUE,WED,THU	14	EVERY DAY
3	TUE	7	SAT	11	MON,FRI	15	NEVER

Autoscope SOLO

Mini-Hub II Detector Port Master Front Panel Input/Output Pin Assignment

CO# 1224

The Mini-Hub II has inputs and outputs available through the front panel Input/ Output connector and through the back edge connector. The pin assignments for the Mini-Hub II front connector are listed in the following table. Edge connector pins are identified by NUMBER on the component (front) side of the board. Edge connector pins are identified by LETTER on the backside of board.

Cam#	Mini-Hub II conn.	Edge conn.	Front Harness	Description	D-Conn. Term #	D-Conn. Detector Descript.	On Print Detector number	Phase
1	Output 1 LED	F	1	SB Suburban Showplace LT	1	9	1	7
1	Output 2 LED	W	14	SB Suburban Showplace C	2	10	2	7
1	Output 3 LED	S	2	SB Suburban Showplace RT	3	11	3	4
2	Output 4 LED	Y	15	EB Grand River LT	4	12	4	1
2	Output 5 LED	(JP1)4	3	EB Grand River LT ADV	5	13	5	1
3	Output 6 LED	(JP7)5	16	EB Grand River L	6	14	6	6
3	Output 7 LED	(JP2)8	4	EB Grand River R	7	15	7	6
4	Output 8 LED	(JP8)9	17	WB Grand River L	8	16	8	2
4	Output 9 LED	(JP3)13	5	WB Grand River R	9	17	9	2
4	Output 10 LED	(JP9)14	18	WB Grand River RT	10	18	10	2
	Output 11 LED	(JP4)17	6					
	Output 12 LED	(JP10)18	19					
	Output 13 LED		7					
	Output 14 LED		20					
	Output 15 LED		8					
	Output 16 LED		21					
	Input 1 LED	(JP5)1	9	LS1 Red 189				
	Input 2 LED	(JP11)2	22	LS2 Red 196				
	Input 3 LED	(JP6)3	10					
	Input 4 LED	(JP12)10	23	LS4 Red 217				
	Input 5 LED		11					
	Input 6 LED		24	LS6 Red 240				
	Input 7 LED		12	LS7 Red 256				
	Input 8 LED	(with JP14*)	25					

*Input 8 with JP14 inserted becomes 24VDC through Input/ Output Connector on front panel.
Logic Ground is the GREY (pin 13) wire from Input/ Output connector on front panel.

Solo System-Wide Interconnections

Solo MVP _____			Branch Power Cable	Branch Communications Cable			Communications Interface Panel	
PIN	PAIR COLOR	WIRE COLOR	WIRE COLOR	PAIR	PAIR COLOR	WIRE COLOR	SIGNAL	Terminal
A	BRN/BLK	BRN	BRN		BRN/WHI	BRN	24V PWR	1
B	BRN/BLK	BLK	WHI		BRN/WHI	WHI	24V RTN	2
N	-	GRN/YEL	GRN		GRN/WHI	GRN	EARTH GND	3
P	BLU/BLK	BLU	BLU	1	BLK/WHI	BLU	SUP RX+	4
U	BLU/BLK	BLK	WHT	1	BLU/WHI	WHI	SUP RX-	5
D	RED/BLK	RED	RED	2	RED/BLU	RED	SUP TX+	6
R	RED/BLK	BLK	BLU	2	RED/BLU	BLU	SUP TX-	7
F	YEL/BLK	YEL	ORG	3	ORG/WHI	ORG	DET+	8
E	YEL/BLK	BLK	WHI	3	ORG/WHI	WHI	DET-	9
J	WHI/BLK	WHI	GREY	4	GREY/WHI	GREY	VIDEO+	10
H	WHI/BLK	BLK	WHI	4	GREY/WHI	WHI	VIDEO-	11

Appendix B

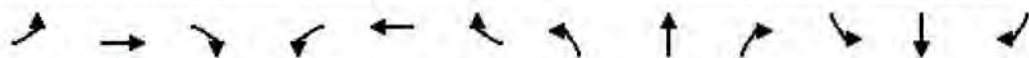
EXISTING TRAFFIC CONDITIONS

HCM 6th Signalized Intersection Summary

1: Beck Road & Grand River Avenue

Existing Conditions

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↕	↔	↔	↕↔		↔↔	↕↕	↔
Traffic Volume (veh/h)	392	980	153	81	219	225	96	537	90	498	638	225
Future Volume (veh/h)	392	980	153	81	219	225	96	537	90	498	638	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	413	1032	161	95	258	265	105	590	99	519	665	234
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	484	1170	182	109	1070	740	131	620	104	573	1051	691
Arrive On Green	0.13	0.36	0.36	0.06	0.29	0.29	0.07	0.19	0.19	0.16	0.28	0.28
Sat Flow, veh/h	3638	3243	505	1875	3741	1668	1875	3206	537	3638	3741	1668
Grp Volume(v), veh/h	413	595	598	95	258	265	105	344	345	519	665	234
Grp Sat Flow(s),veh/h/ln	1819	1870	1878	1875	1870	1668	1875	1870	1872	1819	1870	1668
Q Serve(g_s), s	13.3	35.8	35.9	6.0	6.3	12.6	6.6	21.8	21.9	16.8	18.7	11.5
Cycle Q Clear(g_c), s	13.3	35.8	35.9	6.0	6.3	12.6	6.6	21.8	21.9	16.8	18.7	11.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	484	675	677	109	1070	740	131	362	362	573	1051	691
V/C Ratio(X)	0.85	0.88	0.88	0.87	0.24	0.36	0.80	0.95	0.95	0.91	0.63	0.34
Avail Cap(c_a), veh/h	606	675	677	109	1070	740	169	362	362	582	1051	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	35.9	36.0	56.0	32.9	22.1	55.0	47.8	47.9	49.7	37.7	24.0
Incr Delay (d2), s/veh	9.5	15.4	15.5	47.8	0.5	1.3	18.5	34.5	35.4	17.6	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	18.2	18.3	4.2	2.9	5.0	3.7	13.3	13.4	8.8	8.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	51.3	51.5	103.8	33.4	23.4	73.5	82.3	83.3	67.3	39.0	24.3
LnGrp LOS	E	D	D	F	C	C	E	F	F	E	D	C
Approach Vol, veh/h		1606			618			794			1418	
Approach Delay, s/veh		53.7			39.9			81.6			46.9	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	50.3	15.2	40.5	23.0	41.3	25.7	30.0				
Change Period (Y+Rc), s	*7	*7	6.8	6.8	*7	*7	6.8	6.8				
Max Green Setting (Gmax), s	*7	*43	10.8	31.6	*20	*30	19.2	23.2				
Max Q Clear Time (g_c+l1), s	8.0	37.9	8.6	20.7	15.3	14.6	18.8	23.9				
Green Ext Time (p_c), s	0.0	3.0	0.0	3.7	0.6	2.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

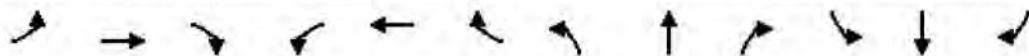
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Taft Road & Grand River Avenue

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	8	1082	157	71	514	2	157	0	227	1	4	2
Future Volume (veh/h)	8	1082	157	71	514	2	157	0	227	1	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	9	1176	171	82	591	2	178	0	258	2	7	3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	888	1264	183	503	734	2	349	0	286	63	25	11
Arrive On Green	0.86	0.77	0.77	0.24	0.19	0.19	0.15	0.00	0.17	0.00	0.02	0.02
Sat Flow, veh/h	1875	3279	475	1875	3824	13	1875	0	1668	1875	1308	560
Grp Volume(v), veh/h	9	669	678	82	289	304	178	0	258	2	0	10
Grp Sat Flow(s),veh/h/ln	1875	1870	1883	1875	1870	1966	1875	0	1668	1875	0	1868
Q Serve(g_s), s	0.0	34.5	35.3	0.2	17.7	17.7	6.4	0.0	18.2	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.0	34.5	35.3	0.2	17.7	17.7	6.4	0.0	18.2	0.0	0.0	0.6
Prop In Lane	1.00		0.25	1.00		0.01	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	888	721	726	503	359	378	349	0	286	63	0	35
V/C Ratio(X)	0.01	0.93	0.93	0.16	0.80	0.80	0.51	0.00	0.90	0.03	0.00	0.28
Avail Cap(c_a), veh/h	888	937	943	503	1021	1073	349	0	323	110	0	218
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	12.4	12.5	35.0	46.3	46.3	44.5	0.0	48.7	59.8	0.0	58.1
Incr Delay (d2), s/veh	0.0	19.9	20.7	0.2	17.2	16.5	1.2	0.0	25.1	0.2	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.8	9.0	1.8	9.6	10.1	4.8	0.0	9.5	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	32.3	33.1	35.2	63.6	62.9	45.8	0.0	73.8	60.0	0.0	62.4
LnGrp LOS	A	C	C	D	E	E	D	A	E	E	A	E
Approach Vol, veh/h		1356			675			436				12
Approach Delay, s/veh		32.5			59.8			62.3				62.0
Approach LOS		C			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.8	52.8	24.3	8.1	58.1	29.5	6.0	26.4				
Change Period (Y+Rc), s	* 6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	* 8.9	* 60	* 12	* 14	* 3.5	* 66	* 3.2	* 23				
Max Q Clear Time (g_c+l1), s	2.2	37.3	8.4	2.6	2.0	19.7	2.0	20.2				
Green Ext Time (p_c), s	0.1	8.9	0.2	0.0	0.0	3.3	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Beck Road & Grand River Avenue

Existing Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	517	477	47	105	704	503	169	494	121	175	493	340
Future Volume (veh/h)	517	477	47	105	704	503	169	494	121	175	493	340
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	533	492	48	121	809	578	178	520	127	184	519	358
Peak Hour Factor	0.97	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	589	1307	127	149	1112	635	207	679	165	302	749	605
Arrive On Green	0.16	0.38	0.38	0.08	0.30	0.30	0.11	0.23	0.23	0.08	0.20	0.20
Sat Flow, veh/h	3638	3444	335	1875	3741	1668	1875	2983	725	3638	3741	1668
Grp Volume(v), veh/h	533	266	274	121	809	578	178	325	322	184	519	358
Grp Sat Flow(s),veh/h/ln	1819	1870	1909	1875	1870	1668	1875	1870	1838	1819	1870	1668
Q Serve(g_s), s	17.3	12.4	12.5	7.6	23.3	35.7	11.2	19.5	19.7	5.9	15.5	20.9
Cycle Q Clear(g_c), s	17.3	12.4	12.5	7.6	23.3	35.7	11.2	19.5	19.7	5.9	15.5	20.9
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	589	710	725	149	1112	635	207	426	418	302	749	605
V/C Ratio(X)	0.90	0.38	0.38	0.81	0.73	0.91	0.86	0.76	0.77	0.61	0.69	0.59
Avail Cap(c_a), veh/h	606	710	725	234	1112	635	238	426	418	521	792	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	26.9	27.0	54.3	37.8	35.2	52.5	43.3	43.4	53.1	44.5	31.1
Incr Delay (d2), s/veh	16.8	1.5	1.5	11.0	4.2	19.5	23.6	8.0	8.5	2.0	2.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	5.6	5.7	3.9	10.8	18.6	6.5	9.7	9.6	2.7	7.2	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	28.4	28.5	65.3	42.0	54.7	76.0	51.3	51.9	55.1	47.0	32.5
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1073			1508			825			1061	
Approach Delay, s/veh		47.2			48.7			56.9			43.5	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.6	52.6	20.0	30.8	26.4	42.7	16.8	34.1				
Change Period (Y+Rc), s	* 7	* 7	6.8	6.8	* 7	* 7	6.8	6.8				
Max Green Setting (Gmax), s	* 15	* 37	15.2	25.4	* 20	* 32	17.2	23.4				
Max Q Clear Time (g_c+l1), s	9.6	14.5	13.2	22.9	19.3	37.7	7.9	21.7				
Green Ext Time (p_c), s	0.1	2.8	0.1	1.1	0.2	0.0	0.4	0.7				

Intersection Summary

HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

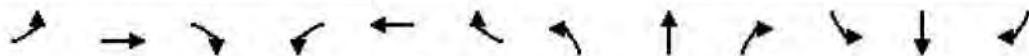
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Taft Road & Grand River Avenue

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	7	643	94	166	989	4	133	0	96	1	1	0
Future Volume (veh/h)	7	643	94	166	989	4	133	0	96	1	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	9	804	118	175	1041	4	151	0	109	2	2	0
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	1	1	1
Cap, veh/h	798	909	133	907	1245	5	190	0	136	63	9	0
Arrive On Green	0.77	0.56	0.56	0.43	0.33	0.33	0.08	0.00	0.08	0.00	0.00	0.00
Sat Flow, veh/h	1875	3272	480	1875	3822	15	1890	0	1682	1890	1984	0
Grp Volume(v), veh/h	9	459	463	175	509	536	151	0	109	2	2	0
Grp Sat Flow(s),veh/h/ln	1875	1870	1882	1875	1870	1966	1890	0	1682	1890	1984	0
Q Serve(g_s), s	0.0	25.8	25.8	0.5	30.3	30.3	6.7	0.0	7.6	0.0	0.1	0.0
Cycle Q Clear(g_c), s	0.0	25.8	25.8	0.5	30.3	30.3	6.7	0.0	7.6	0.0	0.1	0.0
Prop In Lane	1.00		0.26	1.00		0.01	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	798	519	523	907	609	641	190	0	136	63	9	0
V/C Ratio(X)	0.01	0.88	0.88	0.19	0.84	0.84	0.79	0.00	0.80	0.03	0.23	0.00
Avail Cap(c_a), veh/h	798	834	839	907	1036	1090	282	0	283	126	152	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	25.0	25.0	18.6	37.5	37.5	54.5	0.0	54.2	59.8	59.5	0.0
Incr Delay (d2), s/veh	0.0	19.4	19.3	0.1	12.8	12.3	9.0	0.0	10.3	0.2	13.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.6	9.6	2.7	15.2	15.9	4.8	0.0	3.6	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	44.4	44.3	18.7	50.3	49.8	63.5	0.0	64.4	60.0	73.0	0.0
LnGrp LOS	A	D	D	B	D	D	E	A	E	E	E	A
Approach Vol, veh/h		931			1220			260				4
Approach Delay, s/veh		44.0			45.5			63.9				66.5
Approach LOS		D			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.7	39.8	15.2	6.3	52.9	45.6	6.0	15.5				
Change Period (Y+Rc), s	* 6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	* 18	* 54	* 15	* 9.2	* 4.5	* 67	* 4.2	* 20				
Max Q Clear Time (g_c+l1), s	2.5	27.8	8.7	2.1	2.0	32.3	2.0	9.6				
Green Ext Time (p_c), s	0.4	5.5	0.2	0.0	0.0	6.8	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	222	361	464	448	177	106	104	173	203	467	412	225
Average Queue (ft)	119	163	268	274	69	38	43	42	71	284	251	198
95th Queue (ft)	201	283	395	401	157	86	91	109	150	423	391	261
Link Distance (ft)			1894	1894		1787	1787			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)		0	6							10	5	42
Queuing Penalty (veh)		0	23							48	17	134

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	325	704	608	99
Average Queue (ft)	264	314	243	45
95th Queue (ft)	368	675	554	77
Link Distance (ft)		835	835	
Upstream Blk Time (%)		2	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	65	18	0	
Queuing Penalty (veh)	207	89	0	

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	16	263	300	100	102	116	246	169	4	39
Average Queue (ft)	2	98	102	33	25	27	110	72	0	7
95th Queue (ft)	10	207	228	76	72	78	199	132	4	28
Link Distance (ft)		996	996		2003	2003		856	945	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325			150
Storage Blk Time (%)										
Queuing Penalty (veh)										

Zone Summary

Zone wide Queuing Penalty: 518

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	340	382	524	424	162	293	298	382	221	377	334	132
Average Queue (ft)	235	261	177	137	62	190	194	173	128	215	186	31
95th Queue (ft)	375	407	426	304	128	271	277	313	215	322	296	94
Link Distance (ft)			1894	1894		1795	1795			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)	6	12	0					0		2	1	0
Queuing Penalty (veh)	16	28	0					1		11	3	1

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	161	263	238	213
Average Queue (ft)	83	167	140	100
95th Queue (ft)	138	243	213	181
Link Distance (ft)		835	835	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	2	25		
Queuing Penalty (veh)	5	44		

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	16	164	173	133	137	155	185	66	17	22
Average Queue (ft)	2	59	67	54	43	49	80	33	1	3
95th Queue (ft)	11	127	142	110	95	112	152	55	9	16
Link Distance (ft)		596	596		2003	2003		856	946	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325			150
Storage Blk Time (%)										
Queuing Penalty (veh)										

Zone Summary

Zone wide Queuing Penalty: 107

Appendix C

BACKGROUND TRAFFIC CONDITIONS

HCM 6th Signalized Intersection Summary

1: Beck Road & Grand River Avenue

Background Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↕	↔	↔	↕↔		↔↔	↕↕	↔
Traffic Volume (veh/h)	398	995	155	82	222	228	97	545	91	506	648	228
Future Volume (veh/h)	398	995	155	82	222	228	97	545	91	506	648	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	419	1047	163	96	261	268	107	599	100	527	675	238
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	1155	180	109	1047	733	133	628	105	581	1064	699
Arrive On Green	0.13	0.36	0.36	0.06	0.28	0.28	0.07	0.20	0.20	0.16	0.28	0.28
Sat Flow, veh/h	3638	3244	504	1875	3741	1668	1875	3209	534	3638	3741	1668
Grp Volume(v), veh/h	419	603	607	96	261	268	107	349	350	527	675	238
Grp Sat Flow(s),veh/h/ln	1819	1870	1878	1875	1870	1668	1875	1870	1873	1819	1870	1668
Q Serve(g_s), s	13.5	36.8	36.9	6.1	6.5	12.9	6.7	22.1	22.2	17.1	18.9	11.6
Cycle Q Clear(g_c), s	13.5	36.8	36.9	6.1	6.5	12.9	6.7	22.1	22.2	17.1	18.9	11.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	490	666	669	109	1047	733	133	366	367	581	1064	699
V/C Ratio(X)	0.86	0.91	0.91	0.88	0.25	0.37	0.80	0.95	0.96	0.91	0.63	0.34
Avail Cap(c_a), veh/h	606	666	669	109	1047	733	164	366	367	588	1064	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	36.7	36.8	56.1	33.4	22.5	54.9	47.7	47.7	49.5	37.5	23.6
Incr Delay (d2), s/veh	9.8	18.1	18.3	50.0	0.6	1.4	20.3	34.6	35.4	17.8	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	19.1	19.3	4.3	2.9	5.1	3.9	13.5	13.6	9.0	8.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	54.8	55.1	106.1	34.0	23.9	75.2	82.3	83.1	67.3	38.7	23.9
LnGrp LOS	E	D	E	F	C	C	E	F	F	E	D	C
Approach Vol, veh/h		1629			625			806			1440	
Approach Delay, s/veh		56.4			40.7			81.7			46.8	
Approach LOS		E			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	49.7	15.3	40.9	23.2	40.6	26.0	30.3				
Change Period (Y+Rc), s	*7	*7	6.8	6.8	*7	*7	6.8	6.8				
Max Green Setting (Gmax), s	*7	*43	10.5	32.4	*20	*30	19.4	23.5				
Max Q Clear Time (g_c+l1), s	8.1	38.9	8.7	20.9	15.5	14.9	19.1	24.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	3.9	0.6	2.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	55.7
HCM 6th LOS	E

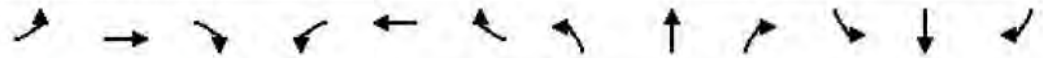
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Taft Road & Grand River Avenue

Background Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	8	1098	159	72	522	2	159	0	230	1	4	2
Future Volume (veh/h)	8	1098	159	72	522	2	159	0	230	1	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	9	1193	173	83	600	2	181	0	261	2	7	3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	880	1279	185	492	745	2	353	0	289	63	25	11
Arrive On Green	0.85	0.78	0.78	0.23	0.19	0.19	0.16	0.00	0.17	0.00	0.02	0.02
Sat Flow, veh/h	1875	3280	474	1875	3824	13	1875	0	1668	1875	1308	560
Grp Volume(v), veh/h	9	678	688	83	293	309	181	0	261	2	0	10
Grp Sat Flow(s),veh/h/ln	1875	1870	1884	1875	1870	1967	1875	0	1668	1875	0	1868
Q Serve(g_s), s	0.0	34.9	35.8	0.3	18.0	18.0	6.6	0.0	18.4	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.0	34.9	35.8	0.3	18.0	18.0	6.6	0.0	18.4	0.0	0.0	0.6
Prop In Lane	1.00		0.25	1.00		0.01	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	880	729	734	492	364	383	353	0	289	63	0	35
V/C Ratio(X)	0.01	0.93	0.94	0.17	0.81	0.81	0.51	0.00	0.90	0.03	0.00	0.28
Avail Cap(c_a), veh/h	880	934	940	492	1022	1075	353	0	324	110	0	219
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	11.9	12.0	35.6	46.1	46.1	44.4	0.0	48.6	59.8	0.0	58.1
Incr Delay (d2), s/veh	0.0	20.0	20.9	0.2	17.1	16.4	1.3	0.0	25.4	0.2	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	9.0	1.8	9.8	10.2	4.9	0.0	9.6	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.7	31.9	32.9	35.7	63.3	62.6	45.7	0.0	74.0	60.0	0.0	62.4
LnGrp LOS	A	C	C	D	E	E	D	A	E	E	A	E
Approach Vol, veh/h		1375			685			442				12
Approach Delay, s/veh		32.2			59.6			62.4				62.0
Approach LOS		C			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	53.3	24.5	8.1	57.5	29.9	6.0	26.6				
Change Period (Y+Rc), s	* 6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	* 9	* 60	* 12	* 14	* 3.3	* 66	* 3.2	* 23				
Max Q Clear Time (g_c+l1), s	2.3	37.8	8.6	2.6	2.0	20.0	2.0	20.4				
Green Ext Time (p_c), s	0.1	9.0	0.2	0.0	0.0	3.4	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

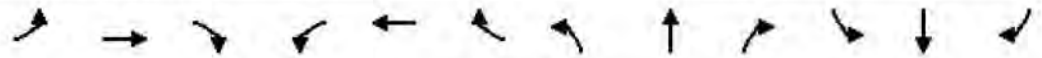
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

1: Beck Road & Grand River Avenue

Background Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↕	↔	↔	↕↔		↔↔	↕↕	↔
Traffic Volume (veh/h)	525	484	48	107	715	511	172	501	123	178	500	345
Future Volume (veh/h)	525	484	48	107	715	511	172	501	123	178	500	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	541	499	49	123	822	587	181	527	129	187	526	363
Peak Hour Factor	0.97	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	596	1290	126	151	1092	626	210	689	168	303	757	611
Arrive On Green	0.16	0.37	0.37	0.08	0.29	0.29	0.11	0.23	0.23	0.08	0.20	0.20
Sat Flow, veh/h	3638	3442	337	1875	3741	1668	1875	2982	727	3638	3741	1668
Grp Volume(v), veh/h	541	270	278	123	822	587	181	330	326	187	526	363
Grp Sat Flow(s),veh/h/ln	1819	1870	1908	1875	1870	1668	1875	1870	1838	1819	1870	1668
Q Serve(g_s), s	17.5	12.7	12.8	7.7	23.9	35.0	11.4	19.7	19.9	6.0	15.7	21.2
Cycle Q Clear(g_c), s	17.5	12.7	12.8	7.7	23.9	35.0	11.4	19.7	19.9	6.0	15.7	21.2
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	596	701	715	151	1092	626	210	432	425	303	757	611
V/C Ratio(X)	0.91	0.39	0.39	0.81	0.75	0.94	0.86	0.76	0.77	0.62	0.69	0.59
Avail Cap(c_a), veh/h	606	701	715	234	1092	626	241	432	425	527	798	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	27.4	27.4	54.3	38.6	36.2	52.4	43.1	43.1	53.2	44.4	30.8
Incr Delay (d2), s/veh	17.5	1.6	1.6	11.5	4.8	23.6	23.7	7.8	8.3	2.1	2.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	5.7	5.9	4.0	11.2	19.7	6.6	9.8	9.7	2.7	7.3	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	29.0	29.0	65.8	43.4	59.7	76.0	50.9	51.4	55.2	46.9	32.3
LnGrp LOS	E	C	C	E	D	E	E	D	D	E	D	C
Approach Vol, veh/h		1089			1532			837			1076	
Approach Delay, s/veh		47.8			51.4			56.5			43.4	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	52.0	20.2	31.1	26.6	42.0	16.8	34.5				
Change Period (Y+Rc), s	*7	*7	6.8	6.8	*7	*7	6.8	6.8				
Max Green Setting (Gmax), s	*15	*36	15.4	25.6	*20	*31	17.4	23.6				
Max Q Clear Time (g_c+l1), s	9.7	14.8	13.4	23.2	19.5	37.0	8.0	21.9				
Green Ext Time (p_c), s	0.1	2.8	0.1	1.1	0.1	0.0	0.4	0.7				

Intersection Summary

HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

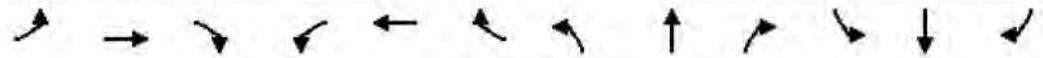
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Taft Road & Grand River Avenue

Background Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	7	653	95	169	1004	4	135	0	97	1	1	0
Future Volume (veh/h)	7	653	95	169	1004	4	135	0	97	1	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	9	816	119	178	1057	4	153	0	110	2	2	0
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	1	1	1
Cap, veh/h	788	920	134	898	1263	5	192	0	137	63	9	0
Arrive On Green	0.76	0.56	0.56	0.43	0.33	0.33	0.08	0.00	0.08	0.00	0.00	0.00
Sat Flow, veh/h	1875	3276	478	1875	3822	14	1890	0	1682	1890	1984	0
Grp Volume(v), veh/h	9	466	469	178	517	544	153	0	110	2	2	0
Grp Sat Flow(s),veh/h/ln	1875	1870	1883	1875	1870	1966	1890	0	1682	1890	1984	0
Q Serve(g_s), s	0.0	26.1	26.1	0.7	30.7	30.7	6.8	0.0	7.7	0.0	0.1	0.0
Cycle Q Clear(g_c), s	0.0	26.1	26.1	0.7	30.7	30.7	6.8	0.0	7.7	0.0	0.1	0.0
Prop In Lane	1.00		0.25	1.00		0.01	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	788	526	529	898	618	650	192	0	137	63	9	0
V/C Ratio(X)	0.01	0.89	0.89	0.20	0.84	0.84	0.80	0.00	0.80	0.03	0.23	0.00
Avail Cap(c_a), veh/h	788	834	839	898	1036	1090	282	0	283	126	152	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	24.6	24.6	18.9	37.2	37.2	54.5	0.0	54.1	59.8	59.5	0.0
Incr Delay (d2), s/veh	0.0	19.4	19.3	0.1	12.7	12.2	9.5	0.0	10.2	0.2	13.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.6	9.6	2.7	15.4	16.1	4.9	0.0	3.6	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.2	44.0	43.9	19.0	49.9	49.3	64.0	0.0	64.4	60.0	73.0	0.0
LnGrp LOS	A	D	D	B	D	D	E	A	E	E	E	A
Approach Vol, veh/h		944			1239			263				4
Approach Delay, s/veh		43.6			45.2			64.2				66.5
Approach LOS		D			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.2	40.2	15.3	6.3	52.2	46.2	6.0	15.6				
Change Period (Y+Rc), s	* 6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	* 18	* 54	* 15	* 9.2	* 4.5	* 67	* 4.2	* 20				
Max Q Clear Time (g_c+l1), s	2.7	28.1	8.8	2.1	2.0	32.7	2.0	9.7				
Green Ext Time (p_c), s	0.4	5.6	0.2	0.0	0.0	7.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	229	400	628	612	176	104	115	154	250	419	379	225
Average Queue (ft)	128	198	332	338	67	44	45	46	78	296	261	206
95th Queue (ft)	209	371	583	585	172	92	100	110	168	423	380	260
Link Distance (ft)			1894	1894		1787	1787			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)		0	14							11	4	47
Queuing Penalty (veh)		0	56							53	14	152

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	325	651	539	96
Average Queue (ft)	276	347	277	46
95th Queue (ft)	369	726	610	80
Link Distance (ft)		835	835	
Upstream Blk Time (%)		5		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	69	20	0	
Queuing Penalty (veh)	223	99	0	

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	21	240	241	83	78	105	272	173	4	36
Average Queue (ft)	3	95	101	31	24	22	107	75	0	6
95th Queue (ft)	14	191	198	67	62	65	204	132	3	24
Link Distance (ft)		996	996		2003	2003		856	945	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325			150
Storage Blk Time (%)							0			
Queuing Penalty (veh)							0			

Zone Summary

Zone wide Queuing Penalty: 596

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	320	342	263	222	146	336	340	385	234	336	304	153
Average Queue (ft)	204	228	119	111	64	194	198	170	116	212	180	38
95th Queue (ft)	319	342	222	186	126	289	295	305	202	304	274	110
Link Distance (ft)			1894	1894		1795	1795			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)	1	3	0			0	0	0		1	0	0
Queuing Penalty (veh)	2	8	0			0	0	0		7	1	1

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	169	258	244	218
Average Queue (ft)	87	163	130	93
95th Queue (ft)	148	234	218	165
Link Distance (ft)		835	835	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	4	24		
Queuing Penalty (veh)	10	42		

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	20	162	164	137	147	145	168	63	20	28
Average Queue (ft)	3	54	68	55	41	43	80	34	1	2
95th Queue (ft)	13	118	135	112	98	103	147	58	8	14
Link Distance (ft)		596	596		2003	2003		856	946	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325		150	
Storage Blk Time (%)										
Queuing Penalty (veh)										

Zone Summary




























Zone wide Queuing Penalty: 73

Appendix D

FUTURE TRAFFIC CONDITIONS

HCM 6th Signalized Intersection Summary
1: Beck Road & Grand River Avenue

Future Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (veh/h)	398	1008	155	87	231	236	97	545	98	518	648	228
Future Volume (veh/h)	398	1008	155	87	231	236	97	545	98	518	648	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	419	1061	163	102	272	278	107	599	108	540	675	238
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	1151	177	109	1040	733	133	620	112	588	1071	702
Arrive On Green	0.13	0.35	0.35	0.06	0.28	0.28	0.07	0.20	0.20	0.16	0.29	0.29
Sat Flow, veh/h	3638	3251	499	1875	3741	1668	1875	3167	570	3638	3741	1668
Grp Volume(v), veh/h	419	610	614	102	272	278	107	353	354	540	675	238
Grp Sat Flow(s),veh/h/ln	1819	1870	1879	1875	1870	1668	1875	1870	1866	1819	1870	1668
Q Serve(g_s), s	13.5	37.5	37.6	6.5	6.8	13.4	6.7	22.5	22.6	17.5	18.9	11.6
Cycle Q Clear(g_c), s	13.5	37.5	37.6	6.5	6.8	13.4	6.7	22.5	22.6	17.5	18.9	11.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	490	662	666	109	1040	733	133	366	365	588	1071	702
V/C Ratio(X)	0.86	0.92	0.92	0.93	0.26	0.38	0.80	0.96	0.97	0.92	0.63	0.34
Avail Cap(c_a), veh/h	606	662	666	109	1040	733	164	366	365	588	1071	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	37.1	37.2	56.3	33.7	22.6	54.9	47.8	47.9	49.5	37.3	23.5
Incr Delay (d2), s/veh	9.8	20.1	20.4	64.9	0.6	1.5	20.3	37.5	38.5	19.6	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	19.8	20.0	4.9	3.1	5.3	3.9	13.9	14.0	9.3	8.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	57.2	57.6	121.1	34.4	24.1	75.2	85.4	86.4	69.1	38.5	23.7
LnGrp LOS	E	E	E	F	C	C	E	F	F	E	D	C
Approach Vol, veh/h		1643			652			814			1453	
Approach Delay, s/veh		58.2			43.6			84.5			47.4	
Approach LOS		E			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	49.5	15.3	41.2	23.2	40.3	26.2	30.3				
Change Period (Y+Rc), s	* 7	* 7	6.8	6.8	* 7	* 7	6.8	6.8				
Max Green Setting (Gmax), s	* 7	* 43	10.5	32.4	* 20	* 30	19.4	23.5				
Max Q Clear Time (g_c+I1), s	8.5	39.6	8.7	20.9	15.5	15.4	19.5	24.6				
Green Ext Time (p_c), s	0.0	1.8	0.0	3.9	0.6	2.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			57.4									
HCM 6th LOS			E									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
2: Taft Road & Grand River Avenue

Future Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑		↖	↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	8	1102	161	72	527	2	162	0	230	1	4	2
Future Volume (veh/h)	8	1102	161	72	527	2	162	0	230	1	4	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	9	1198	175	83	606	2	184	0	261	2	7	3
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	877	1283	187	488	751	2	353	0	289	63	25	11
Arrive On Green	0.85	0.78	0.78	0.23	0.20	0.20	0.16	0.00	0.17	0.00	0.02	0.02
Sat Flow, veh/h	1875	3277	477	1875	3824	13	1875	0	1668	1875	1308	560
Grp Volume(v), veh/h	9	682	691	83	296	312	184	0	261	2	0	10
Grp Sat Flow(s),veh/h/ln	1875	1870	1883	1875	1870	1967	1875	0	1668	1875	0	1868
Q Serve(g_s), s	0.0	35.0	36.0	0.3	18.2	18.2	6.8	0.0	18.4	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.0	35.0	36.0	0.3	18.2	18.2	6.8	0.0	18.4	0.0	0.0	0.6
Prop In Lane	1.00		0.25	1.00		0.01	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	877	732	737	488	368	386	353	0	289	63	0	35
V/C Ratio(X)	0.01	0.93	0.94	0.17	0.81	0.81	0.52	0.00	0.90	0.03	0.00	0.28
Avail Cap(c_a), veh/h	877	934	940	488	1022	1075	353	0	324	110	0	219
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.8	11.7	11.8	35.7	46.0	46.0	44.5	0.0	48.6	59.8	0.0	58.1
Incr Delay (d2), s/veh	0.0	20.1	21.0	0.2	17.1	16.3	1.4	0.0	25.4	0.2	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	9.0	1.8	9.8	10.3	5.0	0.0	9.6	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	31.8	32.8	35.9	63.1	62.4	45.9	0.0	74.0	60.0	0.0	62.4
LnGrp LOS	A	C	C	D	E	E	D	A	E	E	A	E
Approach Vol, veh/h		1382			691			445				12
Approach Delay, s/veh		32.1			59.5			62.3				62.0
Approach LOS		C			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.9	53.5	24.5	8.1	57.3	30.1	6.0	26.6				
Change Period (Y+Rc), s	6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	9	* 60	* 12	* 14	* 3.3	* 66	* 3.2	* 23				
Max Q Clear Time (g_c+1/2, s)	38.0	38.0	8.8	2.6	2.0	20.2	2.0	20.4				
Green Ext Time (p_c), s	0.1	9.0	0.2	0.0	0.0	3.4	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	1608	16	4	543	11	3
Future Vol, veh/h	1608	16	4	543	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1748	17	4	590	12	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1765	0	2060
Stage 1	-	-	-	-	1757
Stage 2	-	-	-	-	303
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	350	-	47
Stage 1	-	-	-	-	124
Stage 2	-	-	-	-	723
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	350	-	46
Mov Cap-2 Maneuver	-	-	-	-	106
Stage 1	-	-	-	-	124
Stage 2	-	-	-	-	715

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	38.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	123	-	-	350	-
HCM Lane V/C Ratio	0.124	-	-	0.012	-
HCM Control Delay (s)	38.4	-	-	15.4	-
HCM Lane LOS	E	-	-	C	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th TWSC
4: E. Site Drive & Grand River Avenue

Future Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	1595	16	4	536	11	3
Future Vol, veh/h	1595	16	4	536	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1734	17	4	583	12	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1751	0	2043
Stage 1	-	-	-	-	1743
Stage 2	-	-	-	-	300
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	354	-	49
Stage 1	-	-	-	-	126
Stage 2	-	-	-	-	725
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	354	-	48
Mov Cap-2 Maneuver	-	-	-	-	108
Stage 1	-	-	-	-	126
Stage 2	-	-	-	-	717

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	37.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	125	-	-	354	-
HCM Lane V/C Ratio	0.122	-	-	0.012	-
HCM Control Delay (s)	37.8	-	-	15.3	-
HCM Lane LOS	E	-	-	C	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th Signalized Intersection Summary
1: Beck Road & Grand River Avenue

Future Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	525	512	48	123	744	546	172	501	138	213	500	345
Future Volume (veh/h)	525	512	48	123	744	546	172	501	138	213	500	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	541	528	49	141	855	628	181	527	145	224	526	363
Peak Hour Factor	0.97	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	1266	117	170	1116	637	210	667	183	303	753	600
Arrive On Green	0.16	0.37	0.37	0.09	0.30	0.30	0.11	0.23	0.23	0.08	0.20	0.20
Sat Flow, veh/h	3638	3461	320	1875	3741	1668	1875	2901	795	3638	3741	1668
Grp Volume(v), veh/h	541	285	292	141	855	628	181	339	333	224	526	363
Grp Sat Flow(s),veh/h/ln	1819	1870	1911	1875	1870	1668	1875	1870	1826	1819	1870	1668
Q Serve(g_s), s	17.6	13.7	13.7	8.9	24.9	35.8	11.4	20.4	20.6	7.2	15.7	21.4
Cycle Q Clear(g_c), s	17.6	13.7	13.7	8.9	24.9	35.8	11.4	20.4	20.6	7.2	15.7	21.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	576	684	699	170	1116	637	210	430	420	303	753	600
V/C Ratio(X)	0.94	0.42	0.42	0.83	0.77	0.99	0.86	0.79	0.79	0.74	0.70	0.60
Avail Cap(c_a), veh/h	576	684	699	250	1116	637	241	430	420	521	779	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	28.5	28.5	53.6	38.3	36.8	52.4	43.4	43.5	53.7	44.5	31.4
Incr Delay (d2), s/veh	23.5	1.9	1.8	13.6	5.0	32.5	23.7	9.4	10.0	3.5	2.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	6.2	6.3	4.7	11.6	22.9	6.6	10.3	10.2	3.4	7.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	30.3	30.3	67.3	43.3	69.2	76.0	52.9	53.5	57.3	47.2	33.1
LnGrp LOS	E	C	C	E	D	E	E	D	D	E	D	C
Approach Vol, veh/h		1118			1624			853			1113	
Approach Delay, s/veh		51.2			55.4			58.0			44.6	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	50.9	20.2	31.0	26.0	42.8	16.8	34.4				
Change Period (Y+Rc), s	* 7	* 7	6.8	6.8	* 7	* 7	6.8	6.8				
Max Green Setting (Gmax), s	* 16	* 36	15.4	25.0	* 19	* 33	17.2	23.2				
Max Q Clear Time (g_c+I1), s	10.9	15.7	13.4	23.4	19.6	37.8	9.2	22.6				
Green Ext Time (p_c), s	0.1	2.9	0.1	0.8	0.0	0.0	0.4	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			52.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: Taft Road & Grand River Avenue

Future Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑		↖	↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	7	671	101	169	1021	4	141	0	97	1	1	0
Future Volume (veh/h)	7	671	101	169	1021	4	141	0	97	1	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	9	839	126	178	1075	4	160	0	110	2	2	0
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.88	0.88	0.88	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	1	1	1
Cap, veh/h	780	941	141	885	1283	5	192	0	138	63	9	0
Arrive On Green	0.75	0.58	0.58	0.42	0.34	0.34	0.08	0.00	0.08	0.00	0.00	0.00
Sat Flow, veh/h	1875	3261	490	1875	3822	14	1890	0	1682	1890	1984	0
Grp Volume(v), veh/h	9	481	484	178	526	553	160	0	110	2	2	0
Grp Sat Flow(s),veh/h/ln	1875	1870	1881	1875	1870	1966	1890	0	1682	1890	1984	0
Q Serve(g_s), s	0.0	26.9	26.9	0.8	31.2	31.2	7.3	0.0	7.7	0.0	0.1	0.0
Cycle Q Clear(g_c), s	0.0	26.9	26.9	0.8	31.2	31.2	7.3	0.0	7.7	0.0	0.1	0.0
Prop In Lane	1.00		0.26	1.00		0.01	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	780	540	543	885	628	660	192	0	138	63	9	0
V/C Ratio(X)	0.01	0.89	0.89	0.20	0.84	0.84	0.83	0.00	0.80	0.03	0.23	0.00
Avail Cap(c_a), veh/h	780	818	823	885	1021	1073	297	0	297	126	152	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.5	23.7	23.7	19.4	36.9	36.9	54.6	0.0	54.1	59.8	59.5	0.0
Incr Delay (d2), s/veh	0.0	19.5	19.5	0.1	12.6	12.1	11.2	0.0	10.1	0.2	13.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.7	9.7	2.8	15.6	16.4	5.2	0.0	3.6	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	43.3	43.2	19.5	49.5	49.0	65.9	0.0	64.2	60.0	73.0	0.0
LnGrp LOS	A	D	D	B	D	D	E	A	E	E	E	A
Approach Vol, veh/h		974			1257			270				4
Approach Delay, s/veh		42.9			45.0			65.2				66.5
Approach LOS		D			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	57.3	41.1	15.3	6.3	51.6	46.8	6.0	15.6				
Change Period (Y+Rc), s	6.5	* 6.5	* 5.8	* 5.8	* 6.5	* 6.5	* 5.8	* 5.8				
Max Green Setting (Gmax), s	18	* 53	* 16	* 9.2	* 4.5	* 66	* 4.2	* 21				
Max Q Clear Time (g_c+I), s	12.8	28.9	9.3	2.1	2.0	33.2	2.0	9.7				
Green Ext Time (p_c), s	0.4	5.7	0.2	0.0	0.0	7.1	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
3: W. Site Drive/Hyne Drive & Grand River Avenue

Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Traffic Vol, veh/h	824	39	11	1373	40	12
Future Vol, veh/h	824	39	11	1373	40	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	896	42	12	1492	43	13

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	938	0	1687
Stage 1	-	-	-	-	917
Stage 2	-	-	-	-	770
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	726	-	85
Stage 1	-	-	-	-	350
Stage 2	-	-	-	-	417
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	726	-	84
Mov Cap-2 Maneuver	-	-	-	-	210
Stage 1	-	-	-	-	350
Stage 2	-	-	-	-	410

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	245	-	-	726	-
HCM Lane V/C Ratio	0.231	-	-	0.016	-
HCM Control Delay (s)	24	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

HCM 6th TWSC
4: E. Site Drive & Grand River Avenue

Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	797	39	12	1344	40	12
Future Vol, veh/h	797	39	12	1344	40	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	866	42	13	1461	43	13

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	908	0	1644
Stage 1	-	-	-	-	887
Stage 2	-	-	-	-	757
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	745	-	90
Stage 1	-	-	-	-	363
Stage 2	-	-	-	-	424
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	745	-	88
Mov Cap-2 Maneuver	-	-	-	-	217
Stage 1	-	-	-	-	363
Stage 2	-	-	-	-	417

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	252	-	-	745	-
HCM Lane V/C Ratio	0.224	-	-	0.018	-
HCM Control Delay (s)	23.4	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	246	400	784	762	182	107	125	142	354	545	410	225
Average Queue (ft)	125	215	406	405	70	43	44	41	85	305	267	214
95th Queue (ft)	210	414	717	701	154	91	91	104	222	474	407	257
Link Distance (ft)			1894	1894		1787	1787			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)		0	24						0	15	7	66
Queuing Penalty (veh)		0	97						0	72	25	215

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	325	862	786	200
Average Queue (ft)	304	647	534	52
95th Queue (ft)	382	1082	946	130
Link Distance (ft)		835	835	
Upstream Blk Time (%)		28	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	78	14	0	
Queuing Penalty (veh)	251	74	1	

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	21	286	338	97	114	112	251	206	16	32
Average Queue (ft)	3	102	108	32	27	24	115	78	1	7
95th Queue (ft)	13	214	233	73	74	71	209	147	6	26
Link Distance (ft)		996	996		2003	2003		856	945	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325			150
Storage Blk Time (%)								0		
Queuing Penalty (veh)								0		

Intersection: 3: W. Site Drive/Hyne Drive & Grand River Avenue

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	26	44
Average Queue (ft)	3	11
95th Queue (ft)	16	35
Link Distance (ft)	602	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	350	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: E. Site Drive & Grand River Avenue

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	7	27	50
Average Queue (ft)	0	2	11
95th Queue (ft)	5	15	38
Link Distance (ft)	248	596	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 735

Intersection: 1: Beck Road & Grand River Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	350	399	620	491	190	320	309	373	310	407	369	160
Average Queue (ft)	284	314	253	183	80	194	200	175	135	243	213	53
95th Queue (ft)	397	444	613	472	155	282	282	298	259	361	325	136
Link Distance (ft)			1894	1894		1795	1795			1082		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			375			425	350		300	125
Storage Blk Time (%)	14	25					0		0	4	2	0
Queuing Penalty (veh)	35	65					0		2	21	7	1

Intersection: 1: Beck Road & Grand River Avenue

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	194	277	253	212
Average Queue (ft)	108	165	139	110
95th Queue (ft)	169	244	224	186
Link Distance (ft)		835	835	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			350
Storage Blk Time (%)	7	23		
Queuing Penalty (veh)	18	50		

Intersection: 2: Taft Road & Grand River Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	21	158	191	139	113	123	177	71	4	22
Average Queue (ft)	2	51	63	49	42	44	84	33	1	1
95th Queue (ft)	12	117	140	102	91	99	152	57	6	10
Link Distance (ft)		596	596		2003	2003		856	946	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500			500			325			150
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: W. Site Drive/Hyne Drive & Grand River Avenue

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	6	37	113
Average Queue (ft)	0	6	36
95th Queue (ft)	5	25	83
Link Distance (ft)	1795		411
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		350	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: E. Site Drive & Grand River Avenue

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	4	33	105
Average Queue (ft)	0	5	37
95th Queue (ft)	3	22	81
Link Distance (ft)	244		501
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		350	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 198

**ZONING ORDINANCE AMENDMENT 18.297:
NEW PLANNED REZONING OVERLAY ORDINANCE**

STATE OF MICHIGAN

COUNTY OF OAKLAND

CITY OF NOVI

ORDINANCE NO. 18.297

AN ORDINANCE TO AMEND THE CITY OF NOVI CODE OF ORDINANCES, ORDINANCE 14-271, THE CITY OF NOVI ZONING ORDINANCE, AS AMENDED, AT ARTICLE 2, DEFINITIONS, IN ORDER TO REVISE THE DEFINITION OF PLANNED REZONING OVERLAY (PRO) CONDITIONS, AND AT ARTICLE 7.0, "ADMINISTRATION, APPEALS, AND ENFORCEMENT," SECTION 7.13, AMENDMENTS TO ORDINANCE, SUBSECTION 2, PLANNED REZONING OVERLAY (PRO), IN ORDER TO COMPREHENSIVELY REVISE THE REQUIREMENTS OF THE ORDINANCE WITH RESPECT TO INTENT, ELIGIBILITY, APPROVAL, PROCEDURE, EFFECT OF APPROVAL, AMENDMENT, EXPIRATION AND EXTENSION, AND EFFECTIVE DATE.

THE CITY OF NOVI ORDAINS:

Part I.

That the City of Novi Zoning Ordinance, as amended, Article 2, Definitions, the definition of Planned Rezoning Overlay (PRO) Conditions, is hereby amended to include the following definition:

Planned Rezoning Overlay (PRO) Conditions: The conditions approved by the City Council as part of an approval under Section 7.13, including review and recommendation by the Planning Commission, which together with the PRO Agreement and PRO Plan shall constitute regulations for and in connection with the development and use of property approved with a PRO in conjunction with a zoning amendment.

Part II.

That the City of Novi Zoning Ordinance, as amended, Article 7, Administration, Appeals, and Enforcement, Section 7-13, Amendments to Ordinance, Subsection 2, Planned Rezoning Overlay, is hereby amended to read as follows in its entirety:

2. Planned Rezoning Overlay (PRO)

A. Optional form of development subject to City Council approval; intent

The Planning Commission and City Council have recognized that, in certain instances, it would be an advantage to both the City and to property owners seeking rezoning if a detailed plan of the proposed improvements, along with conditions and limitations that can be relied upon by the City, could be proposed as part of a petition for rezoning. Therefore, it is the intent of this Section to provide an election to property

owners in connection with the submission of petitions seeking the amendment of this Ordinance to request approval of a rezoning with a Planned Rezoning Overlay (PRO) that would establish a site-specific use authorization under Section 503 of the Michigan Zoning Enabling Act (MZEA), Act 110 of 2006, being MCL 125.3503, so as to accomplish, among other things, the objectives of the zoning ordinance through a land development project review process based upon the application of site planning criteria to achieve integration of the proposed land development project with the characteristics of the project area.

The development authorized under this Section shall be considered an optional means of development only upon terms acceptable to the City. The provision of this option imposes no obligation on the City to encourage or foster its use. The decision whether to approve the use of this option shall be at the sole discretion of the City Council. This PRO option shall not be considered to be a conditional rezoning under Section 405 of the MZEA.

Through the review process and the use of an agreement recorded at the Oakland County Register of Deeds, this option permits flexibility in the regulation of land development in a way that provides benefits to both the City and the property owner, through a negotiated development agreement approved by the City, while ensuring that the land use or activity authorized will be compatible with adjacent uses of land, the natural environment, and the capacities of public services and facilities affected by the land use and that the land use or activity is consistent with the public health, safety, and welfare of the City.

B. Election by applicant; eligibility

- i. A person owning or controlling land shall have the option of making an election under this Section 7.13.2 in connection with a submission of a petition seeking a rezoning. Such election may be made at the time the application for rezoning is filed, or at a subsequent point in the process of review of the proposed rezoning. The election shall be made by filing an application provided by the City conforming with this section for approval of a PRO that would establish a site-specific use authorization if the petition for rezoning is granted. Such election shall be to seek a rezoning with PRO pursuant to Section 503 of the MZEA, MCL 125.3503, as amended, which would represent a legislative amendment of this Ordinance under that statutory provision.
- ii. In order to be eligible for the proposal and review of a rezoning with PRO, an applicant must propose a rezoning of property to a new zoning district classification, and must, as part of such proposal, propose clearly-identified site-specific conditions relating to the

proposed improvements that (1) are in material respects, more strict or limiting than the regulations that would apply to the land under the proposed new zoning district, including such regulations or conditions as set forth in Subsection C below; and (2) constitute an overall benefit to the public that outweighs any material detriments or that could not otherwise be accomplished without the proposed rezoning.

- iii. The applicant for a PRO shall follow the procedures and provide the information required for a PRO application as set forth in the City's Site Plan and Development Manual, as amended.

C. Approval of rezoning with PRO

i. *Submission of application required.* Pursuant to Section 503 of the MZEA, MCL 125.3503, as amended, the City Council, following a public hearing held by the Planning Commission and its recommendation hereunder, may approve a petition for a rezoning with a PRO.

a. *Components of the PRO.* As an integral part of the PRO, the following shall be required:

(1) The PRO Plan as initially submitted shall be a conceptual plan showing the general layout and dimensions of the proposed physical improvements to the site that shall be shown in sufficient detail and allow the verification of any proposed ordinance deviations and any conditions being offered, including the following:

- a. The location of existing and proposed buildings;
- b. Proposed uses within the buildings and on all affected property;
- c. Proposed curb cuts, parking, streets, and drives;
- d. Preliminary landscape plan;
- e. Preliminary engineering plan and stormwater facilities;
- f. Site survey and legal description; and
- g. All items as shown or required on the rezoning application form.

- h. Locations of all lakes, streams, rivers, ponds, and drainage ways, and any existing regulated woodlands on-site, and any proposed impacts to those features.

The PRO Plan may also include:

- a. Building floor plans and building elevations;
- b. The total number of buildings and dwelling units by type (e.g., one-bedroom, two-bedroom, and the square footage of the same) if multiple family zoning or use is proposed;
- c. A plan showing the required open space calculations;
- d. Phasing plan, if proposed;
- e. Location and size of proposed site signage; and
- f. Other items as may be determined by the City.

The final approved PRO Plan shall include such detail as shall be required by the City Council in accordance with this Section, following recommendation by the Planning Commission. The approved PRO Plan shall not replace the requirement for preliminary and final site plan review and approval, or subdivision or condominium approval, as the case may be, which shall be required as set forth below. However, at the City's sole option, the applicant may be permitted to combine the PRO Plan approval and preliminary site plan approval processes into one application, in which case the PRO application and PRO Plan shall provide all the information required for site plan approval under this Ordinance, the City Code, and the City's Site Plan Development Manual.

- (2) PRO Conditions. These conditions to the PRO approval are an integral part of the development approval process as described herein and shall be required by the City Council following recommendation by the Planning Commission. The PRO Conditions shall not authorize uses of land not permitted in the district proposed by the rezoning, and shall not permit uses or development expressly or implicitly prohibited in the PRO Agreement.

- (3) PRO Agreement. This document shall be prepared by the City Attorney, reviewed and commented upon by or on behalf of the applicant, and approved by the City Council. It shall incorporate the PRO Plan and set forth the PRO Conditions and any additional conditions imposed pursuant to MCL 125.3504, as amended, together with any other terms mutually agreed upon by the parties (including the minimum provisions specified in the definition of PRO Agreement, above).
 - (4) PRO Deviations. As part of its review and approval of the PRO, the City Council may authorize deviations from height, area, and bulk standards (but not use or density standards) of this Ordinance. The City Council may also, to the extent permitted, authorize as part of its approval deviations from other regulations (e.g., design and construction standards, sign regulations, and the like). These deviations shall be reduced to writing and shown on the PRO Plan and also listed in the PRO Agreement.
 - (5) Narrative. The PRO application shall include a written narrative explaining the development project and any proposed PRO Conditions and requested PRO Deviations. All such Conditions and Deviations shall be described in as much detail as is possible at the time of application. The narrative shall identify in text the intended land uses, the site-specific limitations and restrictions proposed, and the benefits to the public that are required to be provided as the basis for the PRO as set forth in the Standards for Approval in subsection (ii) below.
- b. *Manner of designation on zoning map.* If approved, the zoning district classification of the rezoned property shall consist of the district to which the property has been rezoned, accompanied by a reference to "PRO, Planned Rezoning Overlay." The Zoning Map shall specify the new zoning district including a reference to "PRO"; e.g., the district classification for the property might be "RM-1, Low Density, Low-Rise Multiple Family with PRO, Planned Rezoning Overlay," with a Zoning Map Designation of "RM-1/PRO." Development and use of the property so classified and approved shall be restricted to the permission granted in the PRO Plan and PRO Agreement, subject to the PRO Conditions, and no other development or use shall be permitted.

c. *Compliance with underlying district regulations; PRO Deviations.* The use of the property in question shall, subject to sub-paragraphs (1) and (2), below, be in total conformity with all regulations governing development and use within the zoning district to which the property has been rezoned, including, without limitation, permitted uses, lot sizes, setbacks, height limits, required facilities, buffers, open space areas, and land use density; provided, however, the following shall apply:

- (1) *Restrictions/limitations not required by ordinance.* Development and use of the property shall propose and be subject to, following City Council review and approval, requirements shown, depicted, or specified on the PRO Plan, and/or in the PRO Conditions imposed, and/or in other conditions and provisions set forth in the PRO Agreement, that are more restrictive, in ways that are material and identifiable and capable of being shown or described and as required in this Ordinance. Such PRO Plan, PRO Conditions, and PRO Agreement shall overlay and supersede all inconsistent regulations otherwise applicable under this Ordinance.
- (2) *PRO Deviations.* As part of the grant of final approval of a PRO, the City Council shall be authorized to grant deviations from the strict terms of this Ordinance governing dimensional requirements on the property.

Deviations granted hereunder shall be justified by documentation provided by the applicant in a form sufficient to allow recommendation by the Planning Commission and acceptable to the City Council. This documentation may include, at the City's discretion, additional traffic or infrastructure studies, environmental studies, market assessments, or the like beyond those required by ordinance or the Site Plan Manual.

The City may, at its discretion, consider the following in determining whether to grant each such deviation:

- a. The PRO Plan, with the deviation, demonstrates an innovative, unified, planned approach to developing the site that has resulted in a proposal for a higher quality development than the City could otherwise require, and that the

Ordinance standard, if the deviation were not granted, would likely prohibit an enhancement of the development that would be in the public interest or would significantly impair the use or operation of the overall development.

- b. The applicant has proposed measures that will eliminate, minimize, or mitigate any negative impacts of the deviation, and that the deviation will not be detrimental to the public health, safety, or welfare of the occupants of the development, the surrounding neighborhood, or the City as a whole.
- c. The PRO Plan, with the deviation, meets the standards for approval under this Section, including the provision of restrictions or limitations on the use or development not otherwise required by the Ordinance.

ii. *Standards for approval.* The City Council shall apply the following standards in evaluating and acting upon the PRO and shall make the specific findings required hereunder. While the City Council shall have the full discretion afforded it by law to determine whether to grant the application under this option, the applicant shall have the burden of demonstrating that the following requirements and standards are met by the PRO Plan, Conditions, and PRO Agreement:

- a. The PRO accomplishes the integration of the proposed land development project with the characteristics of the project area in such a manner that results in an enhancement of the project area as compared to the existing zoning that would be unlikely to be achieved, or would not be assured, in the absence of the use of a PRO.
- b. Sufficient conditions have been included on and in the PRO Plan and the PRO Agreement such that the City Council concludes, in its discretion, that, as compared to the existing zoning and considering the site-specific land use proposed by the applicant, it would be in the public interest to grant the rezoning with PRO. In determining whether approval of a proposed application would be in the public interest, the benefits which would reasonably be expected to accrue from the proposal shall be balanced against, and be found to clearly outweigh the reasonably foreseeable detriments thereof, taking into consideration reasonably accepted planning, engineering, environmental and other principles, as presented to the City Council, following recommendation by

the Planning Commission, and also taking into consideration the special knowledge and understanding of the City by the City Council and Planning Commission.

The PRO Conditions shall not authorize uses or development not permitted in the district proposed by the zoning (and shall not permit uses or development expressly or implicitly prohibited in the PRO Agreement), and may include some or all of the following, in addition to conditions that may be imposed by the City under MCL 125.3504:

- (1) Establishment of development features such as the location, size, height, area, or mass of buildings, structures, or other improvements in a manner that cannot be required under the Ordinance or the City's Code of Ordinances, to be shown on the PRO Plan.
- (2) Specification of the maximum density or intensity of development and/or use, as shown on the PRO Plan and expressed in terms fashioned for the particular development and/or use (for example, and in no respect by way of limitation, units per acre, maximum usable floor area, hours of operation, and the like).
- (3) Provision for setbacks, landscaping, and other buffers in a manner that exceeds what the Ordinance of the Code of Ordinances can require.
- (4) Exceptional site and building design, architecture, and other features beyond the minimum requirements of the Ordinance or the Code of Ordinances.
- (5) Preservation of natural resources and/or features, such as woodlands and wetlands, in a manner that cannot be accomplished through the Ordinance or the Code of Ordinances and that exceeds what is otherwise required. If such areas are to be affected by the proposed development, provisions designed to minimize or mitigate such impact.
- (6) Limitations on the land uses otherwise allowed under the proposed zoning district, including, but not limited to, specification of uses that are permitted and those that are not permitted.
- (7) Provision of a public improvement or improvements that would not otherwise be required under the

ordinance or Code of Ordinances to further the public health, safety, and welfare, protect existing or planned uses, or alleviate or lessen an existing or potential problem relating to public facilities. These can include, but are not limited to, road and infrastructure improvements; relocation of overhead utilities; or other public facilities or improvements.

- (8) Improvements or other measures to improve traffic congestion or vehicular movement with regard to existing conditions or conditions anticipated to result from the development.
- (9) Improvements to site drainage (storm water) or drainage in the area of the development not otherwise required by the Code of Ordinances.
- (10) Limitations on signage.
- (11) Creation or preservation of public or private parkland or open space.
- (12) Other representation, limitations, improvements, or provisions approved by the City Council.

The restrictions, limitations, promises, undertakings, and conditions that are set forth in the PRO Plan, PRO Conditions, and PRO Agreement will run with the land and be enforceable in perpetuity unless amended by mutual agreement of the City and the applicant. There shall, where required by the City, be a written understanding for the permanent maintenance of any improvements or beneficial provisions made a condition of approval hereunder, including a method for paying for the cost of same, including the construction or maintenance of same by the applicant, or by or on behalf of the City in the event the applicant fails to timely perform after notice.

- c. Compliance with all of the General Standards for the approval of uses subject to special conditions are met, as enumerated in Section 6.1.2.C.

D. Procedure for Application, Review and Approval

The City Council is the decision-making body for purposes of this optional form of development as a legislative action. The Planning Commission's recommendation is not binding on the City Council.

- i. *Application.* At the time of making application for amendment of this ordinance seeking a rezoning of property, or at a later time during the process of City consideration of such rezoning, a person owning or controlling land may submit an application for approval of a PRO to apply in conjunction with the rezoning. The application shall include the information described in Section C above, including a statement regarding eligibility for PRO approval under Subsection 2.B.ii.
- ii. *Initial staff review and report.* Upon submission of a complete application, the Community Development Department shall undertake a review of the application (with the assistance consultants, if desired by staff) and prepare an initial report regarding the application for review by the Planning Commission and City Council, including such information and comment as the Department deems appropriate.
- iii. *Initial submission to Planning Commission and City Council for eligibility reviews.* Before the application is submitted to the Planning Commission for formal action, it shall be submitted to the Planning Commission for an initial review of eligibility of the application under Subsection 2.B.ii above. The submission shall be informational only, although the Planning Commission members shall have the opportunity to review and make comments upon the eligibility of the proposal. The Planning Commission's review and comments shall not constitute a recommendation and shall not be binding upon the applicant or the City. This initial meeting of the Planning Commission shall also be noticed as a public hearing before the on a proposed legislative amendment of the Zoning Ordinance pursuant to Section 503 of the MZEA.

Within 45 days after the submission to the Planning Commission, the application shall be forwarded to the City Council, which shall have a similar opportunity to review and comment upon the eligibility of the proposal. The City Council's review and comments shall not constitute a recommendation and shall not be binding on the applicant or the City. The initial reviews of both the Planning Commission and the City Council are intended to provide only an initial indication to the applicant as to whether an applicant should proceed to a formal submission of the PRO application.

The applicant may make changes, additions, or deletions to its application as a result of the Planning Commission's and/or the City Council's comments as to eligibility before making its formal submission.

- iv. *Formal submission of application; Planning Commission action.* Following the initial review process described above, and before

submission to the Planning Commission for action, the Plan Review Center shall undertake a full staff review of the application. The proposed rezoning with PRO shall be noticed for public hearing before the Planning Commission as a proposed legislative amendment of the Zoning Ordinance pursuant to Section 503 of the MZEA, MCL 125.3503, as amended. The Planning Commission may hold a preliminary meeting to discuss the application before setting it for public hearing. Following the public hearing, and further deliberations as deemed appropriate by the Planning Commission, the Planning Commission shall make a recommendation to the City Council on the proposed rezoning with PRO. The recommendation may be to deny, to approve, or to approve with conditions.

- v. *City Council action on PRO application.* Upon receipt of the recommendation of the Planning Commission, the City Council shall commence deliberations on the proposed rezoning with PRO. If the City Council determines that it may approve the rezoning with PRO, the City Council shall specify tentative conditions under Section 504 of the MZEA, MCL 125.3504, as amended, and direct the City Attorney to work with the applicant in the development of a proposed PRO Agreement. Upon completion of the PRO Agreement, the City Council shall make a final determination to approve, approve with conditions, or deny the rezoning with PRO.

- E. **Effect of Approval.** Approval of the PRO Plan and PRO Agreement confirms only the rezoning of the property, subject to any conditions imposed as reflected in the PRO Plan and after recordation as set forth in Paragraph H below. Approval of the usual preliminary site plan and final site plan as set forth in Section 6.1 shall be required before any improvements to the property may be undertaken. As described in Section C above, the applicant may, with the City's approval, pursue PRO Plan approval and preliminary site plan approval commensurately. However, once an area has been included within a PRO Plan that has been recorded, no development may take place in such area nor may any use thereof be made except in accordance with such PRO Plan and PRO Agreement or in accordance with a Council-approved amendment thereto, unless the plan expires as provided herein.

The Zoning Board of Appeals shall have authority with respect to matters within the PRO Plan and PRO Agreement except as may be provided in the PRO Agreement.

- F. **Amendment of PRO Agreement.** Amendment of an approved and recorded PRO Agreement shall be proposed, reviewed, and approved in the same manner as a new rezoning with PRO. Notwithstanding the foregoing, minor modifications to the approved PRO Plan can be approved administratively if the Zoning Ordinance would otherwise allow

an administrative site plan review and approval, so long as the City Planner determines that the modifications (i) are minor, (ii) do not deviate from the general intent of the PRO Plan, and (iii) result in reduced impacts on the surrounding development and existing infrastructure. The City Planner may also defer the question to the Planning Commission. The Planning Commission shall also be permitted to authorize minor amendments to the PRO Plan in its review of the preliminary site plans with regard to parking-related, landscaping-related, and façade-related requirements, provided that it would otherwise have that authority under the Zoning Ordinance and such amendments would not be inconsistent with the PRO Conditions or the PRO Agreement. The Planning Commission may also defer the question to the City Council.

- G. **Recordation of PRO Agreement.** A rezoning with PRO shall become effective following publication in the manner provided by law and City Charter, and, after recordation of the PRO Agreement, whichever is later.
- H. **Fee.** The applicant for a rezoning with PRO shall pay as a fee the City's costs and expenses incurred by the City in the review of and preparation of documents for a rezoning with PRO. An escrow shall be established in an amount specified by City Council Resolution, and additional reasonable amounts shall be contributed as required in order to complete the process of review and approval. Any unexpended amounts from such escrow shall be returned to the applicant.
- I. **Expiration; extension.** Unless otherwise agreed to by City and the applicant as documented in the PRO Agreement, the rezoning with PRO shall expire following a period of two (2) years from the effective date of the PRO Agreement unless *bona fide* development of the property, pursuant to the approved building and other required permits issued by the City, commences within such two-year period and proceeds diligently and in good faith as required by the ordinance to completion, subject to the following.
 - i. In the event *bona fide* development has not commenced within two (2) years from the effective date of the rezoning, the rezoning and PRO shall be void and of no effect, unless otherwise provided in the PRO Agreement, which may provide that the terms and conditions of the PRO shall not expire and shall run with the land and be in the nature of a deed restriction. No approved PRO Plan shall expire after development commences, except with the approval of the Council and of all parties in interest in the land.
 - ii. If development and/or actions are undertaken on or with respect to the property in violation of the PRO Agreement, such development and/or actions shall constitute a nuisance *per se*. In such case, the City may issue a stop work order relative to the property and seek any other lawful remedies. Until curative action is taken to bring the

property into compliance with the PRO Agreement, the City may withhold, or, following notice and an opportunity to be heard, revoke permits and certificates, in addition to or in lieu of such other lawful action to achieve compliance.

- iii. For good cause, the City Council may grant an extension of the rezoning with PRO for a period of up to two (2) years, and may grant at the conclusion of such extension additional subsequent extensions for similar periods of time. In determining whether good cause exists for an extension, the City Council shall consider the following factors:
 - a. The applicant has demonstrated that required utility services have been delayed;
 - b. The applicant has demonstrated that technical reviews of the final site plan (e.g., related to engineering approvals or approvals by other agencies) have raised unforeseen development delays;
 - c. The applicant has demonstrated that unforeseen economic events or conditions have caused delays;
 - d. The approved PRO Plan to be extended is in compliance with all current site plan criteria and current ordinances, laws, codes, and regulations;
 - e. There is no pending zoning ordinance amendment that would otherwise substantially change the requirements of final site plan approval for the approved PRO Plan.
- iv. If the rezoning with PRO becomes void in the manner provided herein:
 - a. The City will initiate a new rezoning of the property to a reasonable district classification in accordance with the procedure provided by law for rezonings in cities. Until such time as a new zoning district classification of the property has become effective, no development shall be undertaken or permits for development issued.
 - b. The applicant may also seek a new rezoning of the property.

J. **Effective date.** The effective date of this ordinance amendment is September 14, 2021. PROs that have been approved by City Council prior to that effective date are not to be considered non-conforming. The PRO Plans and PRO Agreements shall be and remain valid and effective. Any amendments to such PRO Plans and PRO Agreements, however, shall be subject to the requirements of this amended ordinance. The expiration and extension provisions shall apply to such PRO Plans.

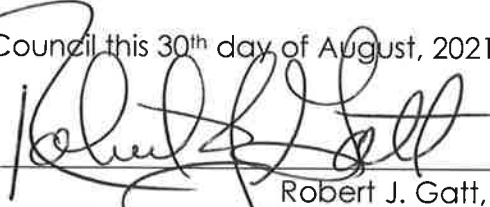
PART III. Severability. Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

PART IV. Savings Clause. The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.


PART V. Repealer. All other Ordinance or parts of Ordinance in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

PART VI. Effective Date: Publication. Public hearing having been held hereon pursuant to the provisions of Section 103 of Act 110 of the Public Acts of 2006, as amended, the provisions of this Ordinance shall be published within fifteen (15) days of its adoption by publication of a brief notice in a newspaper circulated in the City of Novi stating the date of enactment and effective date, a brief statement as to its regulatory effect and that a complete copy of the Ordinance is available for public purchase, use and inspection at the office of the City Clerk during the hours of 8:00 A.M. to 5:00 P.M., Local Time. The provisions of this Ordinance shall become effective seven (7) days after its publication.

Made, Passed and Adopted by the Novi City Council this 30th day of August, 2021.



Robert J. Gatt, Mayor



Cortney Hanson, City Clerk

Certificate of Adoption

I hereby certify that the foregoing is a true and complete copy of the ordinance adopted at the regular meeting of the Novi City Council held on the 30th day of August, 2021.



Cortney Hanson, City Clerk

Adopted: 08/30/2021
Published: 09/09/2021
Effective: 09/16/2021

Certificate of Clerk

I hereby certify that the foregoing ordinance was published by posting a copy thereof at each of the following times and places within the City of Novi, on the 31st day of August, 2021.

- | | | |
|----|----------------|---------------------|
| 1. | Novi City Hall | 45175 Ten Mile Road |
| 2. | Novi Library | 45255 Ten Mile Road |

I do further certify that on the 9th day of September, 2021 said Ordinance Amendment 18.297 was published in brief in the Novi News, a newspaper published and circulated in said City.


Cortney Hanson, City Clerk