PLANNING AND DEVELOPMENT SERVICES STAFF REPORT

For Planning Commission Meeting of August 7, 2019

SUBJECT: Shell Gas Station PUD Site Plan & Landscape Modification
(2679 Ann Arbor-Saline Road)
File No. SP18-047

PROPOSED CITY PLANNING COMMISSION MOTION
The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the Shell Gas Station Planned Unit Development (PUD) Site Plan and associated Landscape Modifications.

STAFF RECOMMENDATION

Staff recommends that the PUD Site Plan proposal be **approved** because it complies with the PUD supplemental regulations and all the applicable local, state and federal laws, ordinances, standards and regulations; would not cause a public or private nuisance; and would not have a detrimental effect on public health, safety or welfare.

Staff recommends that the Landscape Modifications be **approved** because the modifications are consistent with the intent of the ordinance and are associated with a previously approved site plan.

STAFF REPORT:

This petition was postponed at the July 16th, 2019 City Planning Commission Meeting to allow the petitioner to address and respond to issues raised by the Planning Commission.

Landscaping

The right-of-way landscaping was changed from from Taxacea Baccata to Taxacea Densisormis, a more salt tolerant species.

The bioretention and southwest corner of the propsed building addition have been modified slightly to accommodate the minimum 22-foot wide aisle widths in the proposed parking lot.

Photometric Plan

A lighting plan was added to the site plan set showing existing fixtures pointing downwards and shielded with seven new wall fixtures on the proposed addition shielded and pointing downwards. Per the petitioner, the new bulbs are 3,000K and is equivalent to a 60W LED bulb.

Fence

A concrete walk has been added to the rear of the proposed building to facilitate egress. The walk will have a 4-foot high decorative fence along the length of the building addition. The

petitioner decided not to add a fence along the remainder of the property line and submitted elevations along the east side of the site showing an approximate 10:1 slope . Pictures are attached for review.

STAFF COMMENTS

Planning – The petitioner addressed issues raised by Planning Commission. The proposed addition and existing layout meets the previously approved PUD Supplemental Regulations.

Prepared by Chris Cheng
Reviewed by Brett Lenart
mg/8/1/19

Attachments: 7/16/19 PUD Site Plan, Landscape Plan & Elevations
Revised Site Plan & Elevations
Grade Pictures

c: Petitioner/Owner: Abe Ajrouch
2679 Ann Arbor-Saline Road
Ann Arbor, MI 48103

Petitioner's Representative: Todd Quatro
Quatro Construction, LLC
201 North Park Street
Ypsilanti, MI 48198

Project Management
Systems Planning
File No. SP18-047

PLANNING AND DEVELOPMENT SERVICES STAFF REPORT

For Planning Commission Meeting of July 16, 2019

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Staff recommends that the PUD Site Plan proposal be **approved** because it complies with the PUD supplemental regulations and all the applicable local, state and federal laws, ordinances, standards and regulations; would not cause a public or private nuisance; and would not have a detrimental effect on public health, safety or welfare.

Staff recommends that the Landscape Modifications be **approved** because the modifications are consistent with the intent of the ordinance and are associated with a previously approved site plan.

LOCATION

This site is located at the northeast corner of the West Eisenhower and Ann Arbor-Saline Road intersection (South Area and Malletts Creek Watershed).

DESCRIPTION OF PETITION

Previous proposals to remove a former car wash and construct additions to the existing convenience store on this gas station site were approved by City Council in July 2012 and a drive-thru lane and drive-thru window were approved in 2014. The building and site improvements have since been completed.

The petitioner is now proposing to revise the PUD site plan to construct a 4,712-square foot two-story addition on the south side of the buiding for a new overall floor are of 8,792-square feet.

The curb cuts off Ann Arbor-Saline Road and Eisenhower Blvd. remain the same leading to 16 proposed parking spaces fronting W. Eisenhower. The revised total of 39 parking spaces includes 12 spaces used for the gas pumps. This new parking area facing W. Eisenhower requires a ROW buffer area 15-feet wide with a 30-inch high wall to screen for fueling stations. The petitioner is requesting a landscape modification of 10-feet wide buffer with a 30-inch berm.

No changes are proposed for the drive thru lane, which provides stacking for up to 10 vehicles. A brick paved pedestrian path will extend from the public sidewalk to the convenience store north entrance, with a paved patio in the center of the drive-thru loop for outside dining. A new striped path is proposed from the W. Eisenhower sidewalk to the southern retail/office uses. Two covered bicyle parking spaces are also proposed at the south building addition.

No changes are proposed to the gas pump islands or canopies. No natural features are impacted from this proposal.

100-year storm water detention is required and is located underground at the south end of the site, adjacent to W. Eisenhower. Infiltration is not proposed due to the soils and as required by code is over-detaining at 120 percent. A 727-square foot bio-retention area is also proposed at the southwest corner of the proposed addition.

The petitioner held a neighborhood meeting on January 28, 2019 consistent with the Citizen Participation Ordinance requirements. The main concerns mentioned by the neighbors with this proposal involved additional traffic to the site, dumpster screening, decorative fence and preventing off-site parking in the neighboring Cranbrook site. The petitioner's response to these concerns are attached in the Meeting Minutes.

The PUD Supplemental Regulations are attached and no changes are proposed as the new floor area, setbacks, height, uses and parking meets the minimum requriements.
The estimated cost of construction for this project is $750,000.

SURROUNDING LAND USES AND ZONING

	LAND USE	ZONING
NORTH	Single-Family Residential	R1C (Single-Family Dwelling)
EAST	Cranbrook Shopping Center	C1B (Community Convenience Center)
SOUTH	Restaurant and Offices	PUD (Planned Unit Development)
WEST	Single-Family and Multiple-Family Dwellings	R1C and R4A (Multiple-Family Residential)

COMPARISON CHART

	EXISTING	PROPOSED	PUD SUPPLEMENTAL REGULATIONS REQUIRED/PERMITTED
Zoning	PUD	PUD	PUD
Gross Lot Area	62,809 sq ft (1.44 Acres)	62,809 sq ft (1.44 Acres)	60,000 sq ft MIN (1.38 Acres)
Floor Area in Percentage of Lot Area	4,080 sq ft 6.5%	8,792 sq ft 14%	94,213 sq ft 150% MAX

Setback – Front (Ann Arbor-Saline)	55 ft *	55 ft*	10 ft MIN
Setback – Front (W. Eisenhower)	70 ft*	70 ft*	10 ft MIN
Setback – Rear	4.33 ft	4.33 ft	0 ft MIN
Height	1 story 27 ft	2 story 27 ft	4 stories MAX 50 ft MAX
Parking – Automobile	26 spaces**	39 Spaces**	31 spaces MIN
Parking – Bicycle	2 spaces – Class C	2 spaces – Class B 2 spaces – Class C	2 spaces MIN – Class B 2 spaces MIN – Class C

*Measured from pump canopy
** Includes gas pump spaces

HISTORY

In 1856, the original Mills School was constructed on this site in Pittsfield Township. Between the 1950's and 1990's the building was used as a school and leased to the Washtenaw County apprentice program. In 1967, the parcel was annexed into the City, and it was zoned PL (Public Land) in 1980. In the 1990's, the PTO operated a thrift shop at this site. In 1995, Shell Oil Company requested C2B zoning and was tabled at the request of the Planning Commission to process the site as a PUD. This site was then approved as a PUD for auto service station and carwash. The development agreement was subsequently executed and the buildings constructed.

Additions to the existing convenience store were approved in July 2012 and include 2,189 square feet to the north and east of the existing convenience store and converting the 900 square foot carwash area into new retail space, for a new total of 4,089 square feet.

A 109-square foot drive-thru window received approval by City Council in 2013. This addition has since been completed.

STAFF COMMENTS

Engineering – Sheet C4 – Site Drainage & Utility Plan: A valve is required on the existing 12" water main in Ann Arbor-Saline Road, north of the proposed tapping sleeve and valve, to provide separation between the existing fire hydrant and the proposed fire hydrant.

Development Services – The proposed storm water detention basin located on the southeast corner of the site has adequate volume for the new impervious surface proposed.

Forestry - Per Chapter 55, Section 5.16.3.E., if the buffer width is proposed at 10 feet, a 30-inch opaque wall is necessary. If a wall cannot be installed, then the buffer must have a 15-foot buffer width with a berm or a hedge. Forestry Staff supports the Landscape Modification for this project as it meets the intent to screen the vehilces from the public right-of-way.

Planning – The petitioner has designed the site with pedestrian connections on both Ann Arbor-Saline Road and Eisenhower Blvd., along with a brick paved meeting place at the corner that will be available for the public use to encourage social activity.

Prepared by Chris Cheng
Reviewed by Brett Lenart
mg/7/9/19

Attachments: Citizen Participation Meeting Summary
Landscape Modification Application
Supplemental Regulations
Zoning/Parcel Maps
Aerial Photo
PUD Site Plan, Landscape Plan & Elevations

c: Petitioner/Owner: Abe Ajrouch
2679 Ann Arbor-Saline Road
Ann Arbor, MI 48103

Petitioner's Representative: Todd Quatro
Quatro Construction, LLC
201 North Park Street
Ypsilanti, MI 48198

Project Management
Systems Planning
File No. SP18-047

PROJECT CONTACTS

OWNER
ABE AJROUCH
2679 ANN ARBOR SALINE RD
ANN ARBOR MI 48103
248-982-9617

ARCHITECT
ROBERT NOE
9103 N.UNION #135
TECUMSEH, MI 49286
PHONE (734) 693-0852

CONTRACTOR
QUATRO CONSTRUCTION LLC
201 N. PARK STREET
YPSILANTI MI 48198
734-485-7737

GEOTECHNICAL SERVICES
AGS
15798 RIVERSIDE
LIVONIA, MI 48154
734-679-0379

ENGINEER
GATEWAY ENGINEERING & SURVEYING
8155 ANNSBURY, SUITE 109
SHELBY TWP., MI 48316
586-786-5533

CITY OF ANN ARBOR
301 EAST HURON STREET
ANN ARBOR, MI 48104
734-794-6000

TRAFFIC ANALYSIS
SPALDING DeDECKER
905 SOUTH BLVD EAST
ROCHESTER HILLS, MI 48307
248-844-5400

GENERAL NOTES

DO NOT SCALE DRAWINGS – WRITTEN DIMENSIONS TAKE PRECEDENT.

IN CASE OF DISCREPANCIES OR CONFLICTS, NOTIFY ARCHITECT IMMEDIATELY.

ALL WOOD IN CONTACT WITH CONCRETE AND AT EXTERIOR LOCATIONS MUST BE PRESSURE TREATED MOISTURE RESISTANT WOOD.

ALL WALL CONSTRUCTION FACING PLUMBING FIXTURE AREAS MUST UTILIZE MOISTURE RESISTANT GYPSUM BOARD UNLESS OTHERWISE NOTED.

ALL DOORS TO BE KEYLESS IN DIRECTION OF EGRESS.

ALL MEANS OF EGRESS DOOR OPENING HARDWARE SHALL BE OPERATED BY A SINGLE HAND WITHOUT MEANS OF TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. ALL DOORS EQUIPPED WITH PANIC HARDWARE MUST MAINTAIN A 32" CLEAR WIDTH. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED:
A. 8.5 L.B.F. (37.7N) FOR EXTERIOR DOORS.
B. 5.0 L.B.F. (22.2N) FOR INTERIOR DOORS.

DOORS SHALL SET IN MOTION WHEN SUBJECTED TO A 30 POUND FORCE & SWING TO A FULL-OPEN POSITION WHEN SUBJECTED TO A 15-POUND FORCE. FORCES SHALL BE APPLIED TO THE LATCH SIDE.

DOORS INDICATED AS PART OF THE REQUIRED MEANS OF EGRESS SHALL HAVE HARDWARE WHICH IS READILY OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR SPECIAL EFFORT.

PROVIDE FIRE EXTINGUISHERS AS REQUIRED PER APPLICABLE CODES AND COORDINATE EXACT LOCATION WITH BUILDING INSPECTOR.

PROVIDE AND INSTALL OCCUPANCY SIGN IN A CONSPICUOUS LOCATION IN ACCORDANCE WITH STATE & LOCAL CODES.

ALL LIGHT SWITCHES, THERMOSTATS, SECURITY ALARMS, ELECTRICAL OUTLETS, ETC. MUST BE MOUNTED TO MEET ALL GOVERNING ACCESSIBILITY REQUIREMENTS FOR FLOOR & HEIGHT CLEARANCES AND ONE HAND GRASPING OPERATION.

CONTROLS SUCH AS LIGHT SWITCHES, HEATING/AIR CONDITIONING CONTROLS, FIRE ALARM PULLS AND ELECTRICAL OUTLETS ARE WITHIN SPECIFIED REACH RANGES AND HAVE ADEQUATE CLEAR FLOOR SPACE FOR ACCESS. OPERABLE PARTS MUST BE OPERABLE WITH ONE HAND AND NOT REQUIRE TIGHT PINCHING OR GRASPING.

ALL INTERIOR DIMENSIONS ARE FACE OF STUD TO FACE OF STUD. UNLESS OTHERWISE NOTED.

ANY DAMAGE TO LANDLORD'S PROPERTY DURING TENANT DEMOLITION OR CONSTRUCTION (MALL/BUILDING/OTHER FLOORING, BULKHEAD, NEUTRAL PIERS, ETC.) WILL BE REPAIRED PER MALL/BUILDING/OTHER SPECIFICATIONS AT TENANT'S EXPENSE.

REINFORCING STEEL OR STRUCTURAL FRAMEWORK OF ANY PART OF ANY BUILDING OR STRUCTURE SHALL NOT BE COVERED OR CONCEALED WITHOUT RECEIVING INSPECTION APPROVAL BY THE OFFICE OF CENTRAL INSPECTION. IN ADDITION TO REQUIRED ELECTRICAL, MECHANICAL AND PLUMBING INSPECTIONS, THE BUILDING PERMIT HOLDER OR HIS AGENT SHALL REQUEST THE OFFICE OF CENTRAL INSPECTION TO MAKE THE FOLLOWING CALLED BUILDING CONSTRUCTION INSPECTIONS:
a. FOUNDATION INSPECTION PRIOR TO THE POURING TO CONCRETE
b. FRAME INSPECTION AFTER PIPES, CHIMNEYS AND VENTS ARE INSTALLED BUT PRIOR TO CONCEALING THE FRAMEWORK
c. INSULATION AND WALLBOARD INSPECTION
d. FINAL INSPECTION PRIOR TO OCCUPANCY OF THE BUILDING

A SET OF BUILDING PLANS AND SPECIFICATIONS APPROVED BY THE OFFICE OF CENTRAL INSPECTION AND MARKED "FIELD COPY" SHALL BE KEPT ON THE PROJECT DURING CONSTRUCTION UNTIL FINAL INSPECTION APPROVAL HAS BEEN MADE.

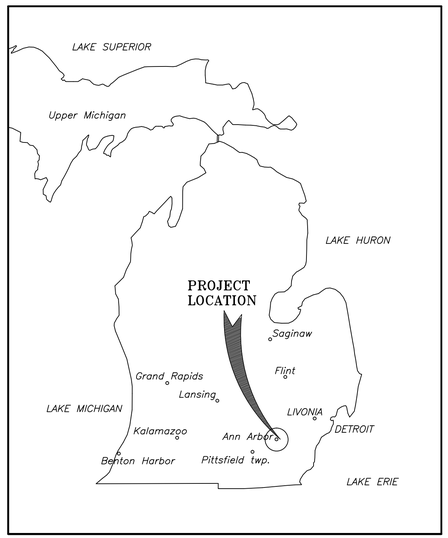
CHANGES MADE, DURING CONSTRUCTION OF A PROJECT, THAT AFFECT EXITING, WALL CONFIGURATION AND STRUCTURAL ELEMENTS THAT ARE NOT JUST "COSMETIC", REQUIRE REVISED PLANS TO BE SUBMITTED TO THE OFFICE OF CENTRAL INSPECTION FOR REVIEW AND APPROVAL. IF A LICENSED ARCHITECT OR ENGINEER SEALED THE ORIGINAL PLANS, THE REVISED PLANS MUST ALSO BE SEALED.

SHELL GAS STATION

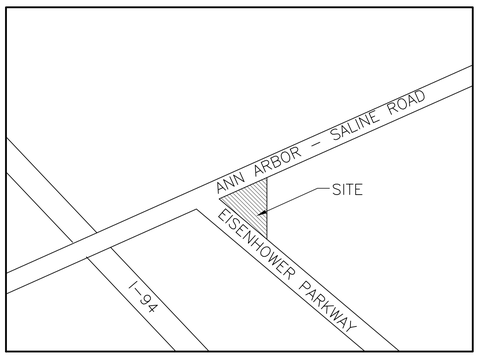
2679 ANN ARBOR SALINE ROAD
ANN ARBOR MICHIGAN

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
LICENSED PROFESSIONAL ENGINEER

PROJECT LOCATION



NORTH
VICINITY MAP
N.T.S.



NORTH
LOCATION MAP
N.T.S.

CODE REVIEW

GOVERNING CODES:

ALL WORK SHALL BE IN CONFORMANCE WITH, BUT NOT LIMITED TO, THE REQUIREMENTS OF THE FOLLOWING:
AND ANY OTHER STATE AND LOCAL CODES HAVING JURISDICTION.

BUILDING:	2015 MICHIGAN BUILDING CODE
MECHANICAL:	2015 MICHIGAN MECHANICAL CODE
PLUMBING:	2015 MICHIGAN PLUMBING CODE
ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE W/ PART 8 AMMEND.
ENERGY:	2015 INTERNATIONAL ENERGY CONSERVATION CODE
FIRE:	2015 INTERNATIONAL FIRE CODE
ACCESSIBILITY:	2003 ICC/ANSI A117.1

BUILDING INFORMATION

CONSTRUCTION TYPE: TYPE VB

UNPROTECTED– NON–SPRINKLED

USE GROUP: BUSINESS – B, MERCANTILE – M

MAX. TRAVEL DISTANCE: 64 FT

STORIES: 2

GROSS LEASED AREA FOR (1) TENANT: 1,290 SQFT

EXITS PER (1) TENANT: TWO (2) EXITS REQUIRED, TWO (2) EXITS PROVIDED

DOOR EXIST WIDTH

DOOR EXIT WIDTH – PER 2015 MBC 1005.1
DOORS = 0.20" / PERSON
140 OCCUPANTS x .20 = 28"

EXIT WIDTH REQUIRED = 28" min

FRONT DOOR WIDTH 6'–4"
REAR DOOR WIDTH 3'–0"

PROVIDED EXIT WIDTH 3'–0"

MINIMUM PLUMBING FIXTURES & OCCUPANCY

PLUMBING FIXTURE COUNT BASED ON THE TYPE OF OCCUPANCY & NUMBER OF OCCUPANTS FROM 2015 MBC & 2015 MPC

TOTAL OCCUPANTS: 140
OCCUPANTS FOR (1) UNIT 140/3: 47 PPL

	23 MALE		
	URINAL	WATER CLOSETS	LAVATORIES
	LESS THAN 67% OF REQ. # WC	1 PER 500	1 PER 750
REQUIRED	0	1	1
PROVIDED	0	1	1

	24 FEMALE		SERVICE SINK	DRINKING FOUNTAIN
	WATER CLOSETS	LAVATORIES		1 PER 1,000
	1 PER 500	1 PER 750		
REQUIRED	1	1	1	1
PROVIDED	1	1	1	1

NATURAL FEATURE IMPACT

NO NATURE FEATURE IMPACT CHANGE.

MISCELLANEOUS NOTES:

TENANT'S GENERAL CONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO TENANT'S ARCHITECT. TENANT'S GENERAL CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC., AS SET FORTH BY THE LANDLORD.

PROJECT DESCRIPTION:

TENANT IMPROVEMENT TO AN EXISTING BUILDING SPACE.

BUILDING SIGNAGE

BUILDING SIGNAGE IS REVIEWED AND PERMITTED SEPARATE FROM BUILDING PERMIT.

EGRESS OCCUPANT LOAD: PER TABLE 1004.1.1

ALLOWABLE
140 PPL

MERCANTILE:
RETAIL: 3(1290)/30 = 3870/30 = 129 PPL
STORAGE: 639/300 = 2.13 = 2 PPL
OFFICE: 478/60 = 8.0 = 8 PPL

COMMUNITY ANALYSIS

THE USE SHALL NOT CHANGE: THEREFORE THE IMPACT TO LOCAL PUBLIC SCHOOLS SHALL NOT CHANGE. NEIGHBORING USES ARE RESIDENTIAL (SOUTH & WEST) & OFFICE/BUISNESS (NORTH & WEST). AN EXISTING GAS STATION IS USEFUL TO THE EXISTING BUSINESSES & HOMES AROUND IT. IMPACT OF ADJACENT USES ON THIS SITE IS UNCHANGED. THE USE IS UNCHANGED, THE NUMBER OF PUMPING POSITIONS IS UNCHANGED SO IMPACT TO AIR, WATER QUALITY, EXISTING NATURAL FEATURES AND NEIGHBORING SITES IS MINIMAL.

SITE ANALYSIS

THE EXISTING USE IS A GAS STATION / CONVENIENCE STORE. ACTIVITY ON SITE ARE CUSTOMERS IN NEED OF GAS OR OTHER GENERAL CONVENIENCE STORE AMENITIES. THE EXISTING SOIL TYPE IS 6' OF SAND OVER CLAY. THE EXISTING VEGETATION IS LISTED ON THE DEMOLITION PLAN C–2. THERE IS NO 100–YEAR FLOOD PLAIN ON THIS SITE. THE ONLY STEEP SLOPE IS LOCATED IN THE PROPERTY TO THE SOUTH OF THIS SITE. THERE ARE NO WATERCOURSES, WETLANDS OR WOODLANDS ON THIS PROPERTY. EXISTING BUILDINGS/STRUCTURES ARE SHOWN ON C–1. ALL EXISTING UTILITIES ARE SHOWN ON THE SURVEY & C–1.

PROJECT DESCRIPTION

1. DRIVEWAY WIDTH ALLOWANCE
THE FOLLOWING CHANGES ARE PROPOSED:
1. CONSTRUCTION OF A NEW 2–STORY ADDITION TO THE EXISTING BUILDING ON THE SITE.
2. WE ARE ADDING ADDITIONAL PAVED PARKING AREA AND THE RECONFIGURATION OF SITE CIRCULATION.
3. WE ARE REMOVING THE INVASIVE TREES ON SITE AND RELOCATING.

TRAFFIC IMPACT

PUMPING POSITIONS MOVED TO ALLOW BETTER FLOW FROM THE DRIVEWAY ENTRANCE AND PARKING AREAS.
1. TWO WAY TRAFFIC NOW PROPOSED AROUND PUMPING SPACES (EXTERIOR) AND SINGLE FLOW BETWEEN (INTERIOR).
2. WHERE AS CURRENTLY THERE IS ONLY ONE WAY TRAFFIC ON ONE SIDE AND IT'S VERY TIGHT (MORE OFTEN THEN NOT PEOPLE WAIT FOR OTHER CARS TO GO FIRST)
3. WE ARE CLOSING TWO ENTRANCES THAT ARE RIGHT ON THE CORNER.
4. THUS ALLOWING PEOPLE TO ENTER AND LEAVE THE SITE WITHOUT BLOCKING ON GOING TRAFFIC ON PACKARD AND STADIUM
5. BUILDING INCREASE OF THIS SIZE HAS RESULTED IN OTHER STORES OF A INCREASE CAR VOLUME OF ~20–30%

INDEX OF DRAWINGS

SUB. TO PLANNING 10-26-18

NOTES:
DRAWINGS LISTED ABOVE ARE FOR INFORMATION ONLY. THESE DRAWINGS AS LISTED IN THE DRAWING INDEX ALONG WITH THE CONTRACT FOR CONSTRUCTION, ADDENDUMS & OTHER INFORMATION AS PROVIDED TO THE GENERAL CONTRACTOR CONSTITUTE THE INSTRUMENTS OF SERVICE AND ARE CONSIDERED A SINGLE ENTITY. THE CONTRACTOR IS THEREFORE BOUND BY ALL INFORMATION INCLUDED. NONE OF THIS INFORMATION OR DRAWING SHEETS SHALL BE TAKEN SEPARATELY OR "STAND ALONE" FROM THE REMAINDER OF THE CONSTRUCTION DOCUMENTS. ALL SUBCONTRACTORS SHALL BE RESPONSIBLE TO REVIEW THE ENTIRE SET OF CONSTRUCTION DOCUMENTS TO DETERMINE THEIR PARTICULAR SCOPE OF WORK. ANY DISCREPANCIES OR CONFLICTING INFORMATION NOT BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO SUBMITTING A BID SHALL BE INTERPRETED AT THE SOLE DISCRETION OF THE ARCHITECT.

SPALDING DeDECKER

THE PEAK HOURS OF TRAFFIC ON ANN ARBOR–SALIN RD AND EISENHOWER PKWY ARE SHOWN IN TABLE 1 BELOW. THESE TRAFFIC PREDICTION ARE DETERMINED USING THE SQUARE FOOTAGE OF THE CONVENIENCE MARKET AND PROPOSED BUILDING.

		AM PEAK HOUR		PM PEAK HOUR	
		EXISTING	PROPOSED	EXISTING	PROPOSED
SUPER CONVENIENCE MARKET/GAS STATION (USE NO.960)	AREA (SFT)	4080	4080	4080	4080
	TRIP GENERATION RATE(PER 1000 SFT)	83.1	83.1	69.3	69.3
	SPLIT(ENTERING/EXITING)	50%/50%	50%/50%	50%/50%	50%/50%
MEDICAL–DENTAL OFFICE BUILDING (USE NO.720)	AREA (SFT)	NA	1550	NA	1550
	TRIP GENERATION RATE(PER 1000 SFT)	NA	2.8	NA	3.5
	SPLIT(ENTERING/EXITING)	NA	78%/22%	NA	28%/72%
	AREA (SFT)	NA	1550	NA	1550
	TRIP GENERATION RATE(PER 1000 SFT)	NA	0.3	NA	4.3
	SPLIT(ENTERING/EXITING)	NA	64%/36%	NA	49%/51%
TOTAL TRAFFIC GENERATED		340	350	282	306
ENTERING TRAFFIC		170	178	141	150
EXITING TRAFFIC		170	350	141	156

TABLE 1: TRIP GENERATION

THE AMOUNT OF TRAFFIC GENERATED BY THE NEW BUILDING IS APPROXIMATELY 5% COMPARED TO THE NUMBER OF TRIPS THE SITE IS CURRENTLY GENERATING.

TRAFFIC SPLIT

THE DETERMINATION OF HOW MANY VEHICLES UTILIZE EACH ENTRANCE AND EXIT FOR THE SITE IS BASED ON THE ROADWAY VOLUME. ACCORDING TO SEMCOG'S (SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS) TRAFFIC DATA, APPROXIMATELY 60% OF THE TRAFFIC AT THIS INTERSECTION IS ON ANN ARBOR–SALINE ROAD, WITH THE REMAINING 40% ON EISENHOWER BOULEVARD. THESE DISTRIBUTION ASSIGNMENTS WERE APPLIED TO THE ANTICIPATED TRIPS AT HE SITE AND ARE SHOWN.

STATE OF MICHIGAN
ROBERT J. NOE
ARCHITECT
No. 25998
LICENSED ARCHITECT

DRAWN DATE:			
4/23/18	REV–1 12/17/18	REV–7 6/21/19	
9/19/18	REV–2	REV–8 7/02/19	
10/02/18	REV–3 4/1/19	REV–9 7/08/19	
10/24/18	4/8/19	REV–10 7/15/19	
SUBMITTAL 10/30/18	4/23/19	REV–11 7/19/19	
REVISION 11/8/18	REV–5 4/26/19	REV–12 7/25/19	
11/15/18	REV–6 5/07/19		

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

DWG FILE:

PROJECT NO.: 2686

SHEET TITLE: TITLE SHEET

SHEET NO.: TS1.0

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GENERAL NOTES

SPECIAL CONDITIONS

THE OWNER, GENERAL CONTRACTOR, THE INDIVIDUAL SUBCONTRACTOR AND MATERIAL MAN AGREE TO SAVE THE ARCHITECT HARMLESS, AS A RESULT OF ANY INJURY OR DAMAGE THAT MAY OCCUR TO ANY INDIVIDUAL OR PROPERTY DURING CONSTRUCTION AS A RESULT OF ACTS OR OMISSIONS BY SAID OWNER, CONTRACTORS AND/OR MATERIAL MEN DURING THE PERFORMANCE OF THEIR WORK.

ALL WORK WILL PROCEED IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL SAFETY CODES, STATURES AND RECOGNIZED STANDARDS.

THE GENERAL CONTRACTOR SHALL OBTAIN THE GENERAL BUIDING PERMIT(S), PAY ALL FEES AND ARRANGE FOR ALL INSPECTIONS FOR HIS WORK.

NO MATERIALS OR CONSTRUCTION PROCEDURES SHALL BE UTILIZED ON THIS PROJECT WHICH ARE PROHIBITED BY LAW OR SHALL CAUSE A HARMFUL EFFECT ON THE ENVIRONMENT OR TO ANY PERSON ON THE SITE DURING CONSTRUCTION OR LATER OCCUPANCY.

INSURANCE

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE LIABILITY AND COMPREHENSIVE INSURANCE AND FOR WORK DAMAGED BY IMPROPER WORKMANSHIP. THE OWNER SHALL PURCHASE AND MAINTAIN THE OWNER'S USUAL COVERAGE INSURANCE ON THE WORK WHICH INSURES TO THE OWNER'S BENEFIT. OPTIONALLY THE OWNER MAY PURCHASE AND MAINTAIN OTHER INSURANCE FOR SELF-PROTECTION AGAINST CLAIMS WHICH MAY ARISE FROM OPERATIONS DURING CONSTRUCTION.

FIELD CONDITIONS

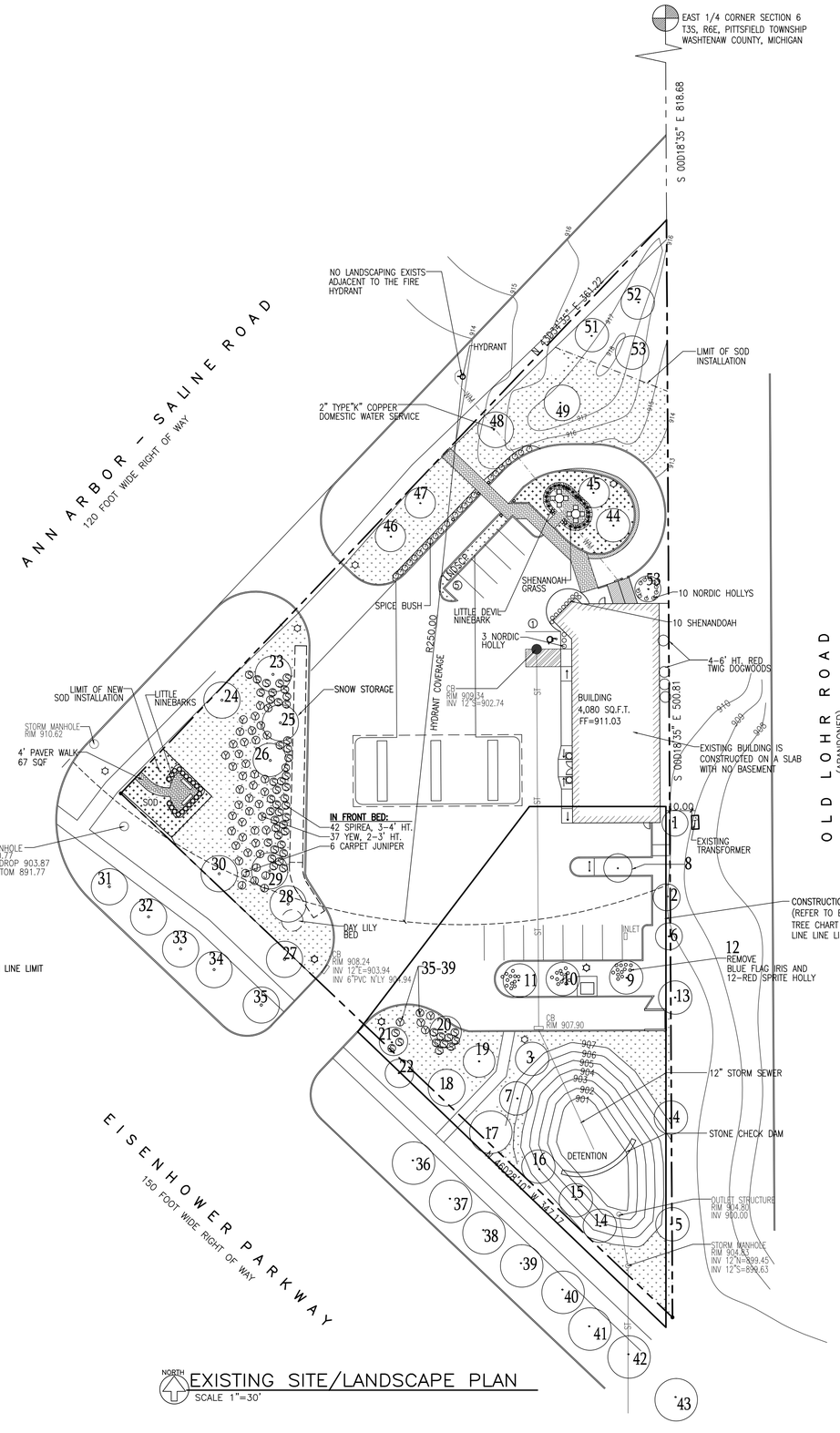
THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FIELD CHECKING ALL EXISTING CONDITIONS AND FOR FITTING THEIR WORK TO NEW AND EXISTING WORK. NOTICE MUST BE IMMEDIATELY GIVEN TO THE ARCHITECT WHERE THERE ARE INCONSISTENT OR CONFLICTION DIMENSIONS ON THE DRAWINGS AD FOR WHERE THERE IS A CONFLICT IN THE WORK OF THE INDIVIDUAL TRADES AND/OR CONDITIONS FOUND IN THE FIELD. EACH CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR HIS WORK WHERE HE FAILS TO CHECK SUCH CONDITIONS AND/OR GIVE NOTICE TO THE ARCHITECT OF DISCREPANCIES THEREIN.

IN GENERAL, UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ONLY THOSE TREES WITHIN THE BUIDING AREA SHALL BE REMOVED. ALL OTHERS WILL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PERIOD.

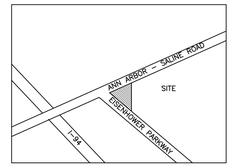
EXISTING SCHEDULE OF PLANTS

	LM	DBH	CNDS	KEPT/REMOVE
1- 5" SUGAR MAPLE	N	5"	FAIR	1- 'KEPT
2- 5" SUGAR MAPLE	N	5"	FAIR	2- 'KEPT
3- 6" SPRUCE	N	6"	FAIR	3- 'KEPT
4- 6" SPRUCE	N	6"	FAIR	4- 'KEPT
5- 6" SPRUCE	N	6"	FAIR	5- 'KEPT
6- 6" SUGAR MAPLE	N	6"	FAIR	6- 'KEPT
7- 5" SPRUCE	N	5"	GOOD	7- 'KEPT
8- SWEET GUM 2" CAL.	N	"	GOOD	8- 'KEPT
9- BLACK GUM 2" CAL	N	"	GOOD	9- 'KEPT
10- BLACK GUM 2" CAL	N	"	FAIR	10- 'KEPT
11- BLACK GUM 2" CAL	N	"	FAIR	11- 'KEPT
12- RED HOLLYS	N	"	FAIR	12- 'KEPT
13- 8" SPRUCE	N	8"	FAIR	13- 'KEPT
14- WHITE SPRUCE	N	"	FAIR	14- 'KEPT
15- WHITE SPRUCE	N	"	FAIR	15- 'KEPT
16- WHITE SPRUCE	N	"	GOOD	16- 'KEPT
17- 7" SUGAR MAPLE	N	7"	FAIR	17- 'KEPT
18- 8" CRAB APPLE	N	8"	FAIR	18- 'KEPT
19- 12" BIRCH CLUMP	N	"	GOOD	19- 'KEPT
20- 12" BIRCH CLUMP	N	"	GOOD	20- 'KEPT
21- 12" PINE	N	12"	FAIR	21- 'KEPT
22- 10" PINE	N	10"	GOOD	22- 'KEPT
23- 8" LINDEN	N	"	FAIR	23- 'KEPT
24- 8" LINDEN	N	"	FAIR	24- 'KEPT
25- 8" LINDEN	N	"	FAIR	25- 'KEPT
26- 6" SPRUCE	N	"	FAIR	26- 'KEPT
27- 8" OAK	N	8"	FAIR	27- 'KEPT
28- 8" LINDEN	N	8"	FAIR	28- 'KEPT
29- 8" LINDEN	N	8"	FAIR	29- 'KEPT
30- 8" LINDEN	N	8"	FAIR	30- 'KEPT
31- CRAB APPLE	N	"	FAIR	31- 'KEPT
31- CRAB APPLE	N	"	FAIR	31- 'KEPT
32- CRAB APPLE	N	"	FAIR	32- 'KEPT]
33- CRAB APPLE	N	"	FAIR	33- 'KEPT
34- CRAB APPLE	N	"	FAIR	34- 'KEPT
35- SUGAR MAPLE	N	"	FAIR	35- 'KEPT
36- CRAB APPLE	N	"	FAIR	36- 'KEPT
37- CRAB APPLE	N	"	FAIR	37- 'KEPT
38- CRAB APPLE	N	"	FAIR	38- 'KEPT
39- SUGAR MAPLE	N	6"	FAIR	39- 'KEPT
40- CRAB APPLE	N	"	FAIR	40- 'KEPT
41- CRAB APPLE	N	"	FAIR	41- 'KEPT
42- 8" LINDEN	N	8"	GOOD	42- 'KEPT
43- 8" LINDEN	N	8"	GOOD	43- 'KEPT
44- SWEET GUM	N	2"	FAIR	44- 'KEPT
45- 5" SUGAR MAPLE	N	5"	FAIR	45- 'KEPT
46- 5" SUGAR MAPLE	N	5"	FAIR	46- 'KEPT
47- 5" SUGAR MAPLE	N	5"	FAIR	47- 'KEPT
48- 6" SUGAR MAPLE	N	6"	FAIR	48- 'KEPT
49- 6" SUGAR MAPLE	N	6"	FAIR	49- 'KEPT
50- 6" SPRUCE	N	6"	FAIR	50- 'KEPT
51- 6" SPRUCE	N	6"	FAIR	51- 'KEPT
52- 6" SPRUCE	N	6"	FAIR	52- 'KEPT
53- 5" SUGAR MAPLE	N	5"	FAIR	53- 'KEPT

#23-26 ON CHART ARE NOT INCLUDED WITHIN THE CONSTRUCTION LINE LIMIT (REFERENCE LANDSCAPE ISLAND THAT IS IN THE CORNER OF EISENHOWER PKWY AND ANN ARBOR-SALINE RD)



NORTH
EXISTING SITE/LANDSCAPE PLAN
SCALE 1"=30'



NORTH
LOCATION MAP
NTS

LEGAL DESCRIPTION

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LEGEND

S	PROPOSED STORM
W	PROPOSED WATER
G	PROPOSED GAS
San	PROPOSED SANITARY
San	EXISTING SANITARY
W	EXISTING WATER
	EXISTING OH WIRES
G	EXISTING GAS
S	EXISTING STORM
741.75	EXISTING GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CURB
T/G	TOP OF GUTTER
T/W	TOP OF WALK
	HYDRANT
	STRUCTURE
	EXISTING LIGHT POST
	SOD
	GRASS
	PAVED AREA
	EXISTING TREE

72 HOURS (3 WORKING DAYS) | BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE)

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
REGISTERED PROFESSIONAL ENGINEER

ROBERT NOE
ARCHITECTURE
3103 WILSON #135
TECUMSEH, MI. 49286
(734)693-0852

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YPSILANTI, MI. 48198
PHONE (734)485-7737, FAX (734)485-7873

SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
08/08/17	5/30/19	
05/31/8	REV 11 7/19/19	
10/01/18		
10/24/18		
12/10/18		
1/10/19		
2/28/19		
3/1/19		
3/19/19		
4/22/19		
5/02/19		

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: EX. SITE/ LANDSCAPE PLAN

SHEET NO.: C1

GENERAL NOTES

SPECIAL CONDITIONS

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INSURANCE

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IN GENERAL, UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ONLY THOSE TREES WITHIN THE BUIDING AREA SHALL BE REMOVED. ALL OTHERS WILL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PERIOD.

LEGAL DESCRIPTION

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CONTAINING 1.44 ACRES OF LAND, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

EXISTING SCHEDULE OF PLANTS

	LM	DBH	CNDS	KEPT/REMOVE
1- 5" SUGAR MAPLE	N	5"	FAIR	1- *REMOVE
2- 5" SUGAR MAPLE	N	5"	FAIR	2- *REMOVE
3- 6" SPRUCE	N	6"	FAIR	3- *REMOVE
4- 6" SPRUCE	N	6"	FAIR	4- *REMOVE
5- 6" SPRUCE	N	6"	FAIR	5- *REMOVE
6- 6" SUGAR MAPLE	N	6"	FAIR	6- *REMOVE
7- 5" SPRUCE	N	5"	GOOD	7- *REMOVE
8- SWEET GUM 2" CAL.	N	"	GOOD	8- *REMOVE
9- BLACK GUM 2" CAL	N	"	GOOD	9- *REMOVE
10- BLACK GUM 2" CAL	N	"	FAIR	10- *REMOVE
11- BLACK GUM 2" CAL	N	"	FAIR	11- *REMOVE
12- 12 RED HOLLYS	N	"	FAIR	12- *REMOVE
13- 8" SPRUCE	N	8"	FAIR	13- *REMOVE
14- WHITE SPRUCE	N	"	FAIR	14- *REMOVE
15- WHITE SPRUCE	N	"	FAIR	15- *REMOVE
16- WHITE SPRUCE	N	"	GOOD	16- *REMOVE
17- 7" SUGAR MAPLE	N	7"	FAIR	17- *REMOVE
18- 8" CRAB APPLE	N	8"	FAIR	18- *REMOVE
19- 12" BIRCH CLUMP	N	"	GOOD	19- *REMOVE
20- 12" BIRCH CLUMP	N	"	GOOD	20- *REMOVE
21- 12" PINE	N	12"	FAIR	21- *REMOVE
22- 10" PINE	N	10"	GOOD	22- *REMOVE
23- 8" LINDEN	N	"	FAIR	23- *REMOVE
24- 8" LINDEN	N	"	FAIR	24- *REMOVE
25- 8" LINDEN	N	"	FAIR	25- *REMOVE
26- 6" SPRUCE	N	"	FAIR	26- *REMOVE
27- 8" OAK	N	8"	FAIR	27- *REMOVE
28- 8" LINDEN	N	8"	FAIR	28- *REMOVE
29- 8" LINDEN	N	8"	FAIR	29- *KEPT
30- 8" LINDEN	N	8"	FAIR	30- *KEPT
31- CRAB APPLE	N	"	FAIR	31- *KEPT
31- CRAB APPLE	N	"	FAIR	31- *KEPT
32- CRAB APPLE	N	"	FAIR	32- *KEPT
33- CRAB APPLE	N	"	FAIR	33- *KEPT
34- CRAB APPLE	N	"	FAIR	34- *KEPT
35- SUGAR MAPLE	N	"	FAIR	35- *KEPT
36- CRAB APPLE	N	"	FAIR	36- *KEPT
37- CRAB APPLE	N	"	FAIR	37- *KEPT
38- CRAB APPLE	N	"	FAIR	38- *KEPT
39- SUGAR MAPLE	N	6"	FAIR	39- *KEPT
40- CRAB APPLE	N	"	FAIR	40- *KEPT
41- CRAB APPLE	N	"	FAIR	41- *KEPT
42- 8" LINDEN	N	8"	GOOD	42- *KEPT
43- 8" LINDEN	N	8"	GOOD	43- *KEPT
44- SWEET GUM	N	2"	FAIR	44- *KEPT
45- 5" SUGAR MAPLE	N	5"	FAIR	45- *KEPT
46- 5" SUGAR MAPLE	N	5"	FAIR	46- *KEPT
47- 5" SUGAR MAPLE	N	5"	FAIR	47- *KEPT
48- 6" SUGAR MAPLE	N	6"	FAIR	48- *KEPT
49- 6" SUGAR MAPLE	N	6"	FAIR	49- *KEPT
50- 6" SPRUCE	N	6"	FAIR	50- *KEPT
51- 6" SPRUCE	N	6"	FAIR	51- *KEPT
52- 6" SPRUCE	N	6"	FAIR	52- *KEPT
53- 5" SUGAR MAPLE	N	5"	FAIR	53- *KEPT

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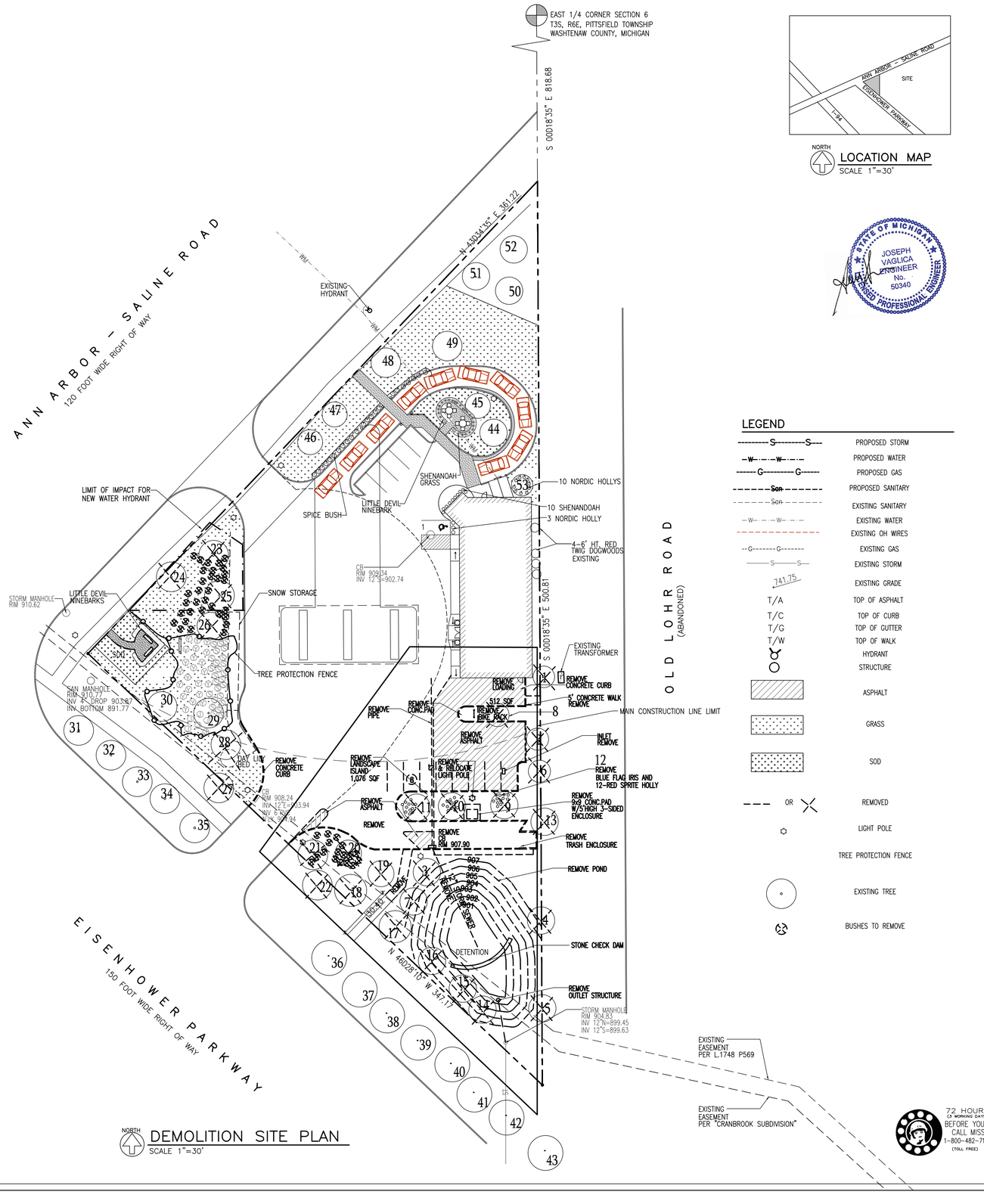

NORTH
DEMOLITION SITE PLAN
SCALE 1"=30'

NORTH
LOCATION MAP
SCALE 1"=30'

LEGEND

S S	PROPOSED STORM
W W	PROPOSED WATER
G G	PROPOSED GAS
San	PROPOSED SANITARY
San	EXISTING SANITARY
W W	EXISTING WATER
	EXISTING OH WIRES
G G	EXISTING GAS
S S	EXISTING STORM
741.75	EXISTING GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CURB
T/G	TOP OF GUTTER
T/W	TOP OF WALK
	HYDRANT
	STRUCTURE
	ASPHALT
	GRASS
	SOD
OR	REMOVED
	LIGHT POLE
	TREE PROTECTION FENCE
	EXISTING TREE
	BUSHES TO REMOVE

ROBERT NOE
ARCHITECTURE
9103 WILSON #135
TECUMSEH, MI
49286
(734)693-0852

QUATRO CONSTRUCTION LLC
DESIGN BUILD CONTRACTOR
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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE	REV 11 07/19/19
08/08/17	
10/23/18	
12/11/18	
1/9/19	
2/22/19	
2/27/19	
3/19/19	
4/22/19	
4/23/19	
5/02/19	
5/17/19	

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: DEMOLITION SITE PLAN

SHEET NO.: C2

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE)

GENERAL NOTES

SPECIAL CONDITIONS

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CITY STANDARDS

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS."

SITE RESPONSIBLITIES

SITE IS RESPONSIBLE FOR OPENING AND CLOSING ENCLOSURES AND MOVING CONTAINERS ON SERVICE DAYS.

DESCRIPTION	REQUIRED	EXISTING	PROPOSED	VARIENCE EXIST TO PROPOSED
ZONING	PUD/C1B	PUD/C1B	PUD/C1B	NO CHANGE
FRONT YARD-BLDG	10	88.55	88.55	NO CHANGE
SIDE YARD	0	132.17	58.00	
REAR YARD	0	4.33	4.33	NO CHANGE
LOADING		15.5x32.83	——	VARIENCE
PARKING	32 MIN	14	39	NO VARIENCE
PARKING SPACE	9x18(9x16*)	9x16	9x18	
HC PARKING	1	1	3	
PARKING AISLE	22	22	22	NO CHANGE
BICYCLE PARKING	3	1	3	
MAXIMUM HEIGHT	50	27	25	
STORIES	4	1	2	
FLOOR AREA		4,080	4,740	
LOT SIZE		62,809.1 SQF 1.44 ACRE	62,809.1 SQF 1.44 ACRE	NO CHANGE
MAX USABLE FLOOR AREA IN % OF LOT AREA	40%	6.5%	12%	

* 16' LONG IF 2' OF OVERHANG IS PPROVIDED WHEN PARKING AGAINST THE CURB

BYCYCLES PARKING CALCULATION

EXISTING RETAIL 3080/3000=	1.03 SPACES
EXISTING STATION	0 SPACE
PROPOSED RETAIL 3,645/3000	1.2 SPACE
BICYCLE PARKING REQUIRED	3 SPACES

VEHICLE & BICYCLE PARKING SIZE

VEHICLE PARKING STALL — 9' WIDE X 18' DEPTH (16' LONG, IF 2' OF OVERHAND IS PROVIDED WHEN PARKING AGAINST A CURB)

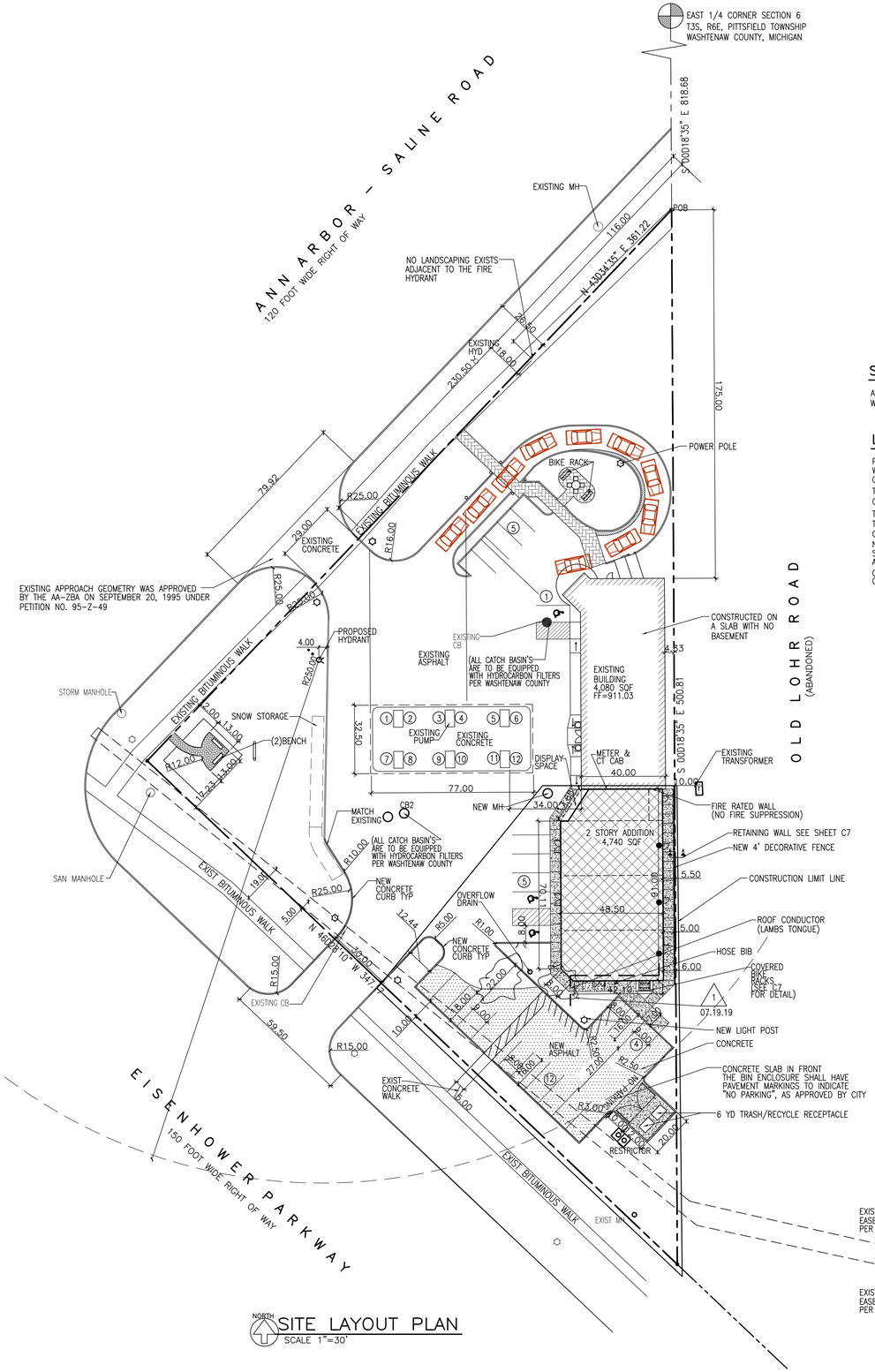
BICYCLE PARKING STALL — 2' WIDE X 6' DEPTH W/ 3' MIN. CLEAR ACCESS AISLE WIDTH.

EXISTING PARKING CALCULATIONS

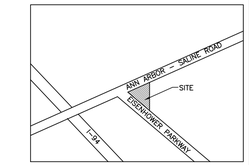
RESTAURANT	680/100=	7 SPACES
FUELING STATION	1000/200=	5 SPACES
RETAIL	2400/310=	8 SPACES
TOTAL REQUIRED		20 SPACES

PROPOSED PARKING CALCULATIONS

RETAIL	3645/310=	12 SPACES
OFFICE	478/333=	2 SPACES
STORAGE	616.81/2000=	1 SPACES
TOTAL REQUIRED		15 SPACES
GRAND TOTAL		35 SPACES



NORTH
SITE LAYOUT PLAN
SCALE 1"=30'



NORTH
LOCATION MAP
NTS

SITE NOTES

ALL CATCH BASINS ARE TO BE EQUIPPED WITH HYRDROCARBON FILTERS PER WASHTENAW COUNTY STANDARDS

LEGAL DESCRIPTION

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CONTAINING 1.44 ACRES OF LAND, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

LEGEND

- PAVED AREA
- NEW ASPHALT
- PROPOSED BUILDING
- GRASS
- PROPOSED SIDEWALK
- LIGHT POST
- PROPOSED STORM ---------S---------S---------
- PROPOSED WATER -·-·-W-·-·-
- PROPOSED GAS ---------G---------
- PROPOSED SANITARY ---------San---------
- EXISTING SANITARY ---------S---------
- EXISTING WATER -·-·-W-·-·-
- EXISTING OH WIRES
- EXISTING GAS ---------G---------
- EXISTING STORM ---------r---------
- EXISTING GRADE 741.75
- TOP OF ASPHALT T/A
- TOP OF CURB T/C
- TOP OF GUTTER T/G
- TOP OF WALK T/W
- HYDRANT
- STRUCTURE
- BIKE RACK
- 5' WALKWAY
- EXISTING PUMP

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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
5/31/18		5/06/19
9/19/18		5/21/19
10/02/18	2/28/19	7/08/19
10/24/18	3/1/19	7/11/19
10/30/18	3/05/19	7/15/19
11/08/18	3/12/19	7/16/19
11/09/18	3/22/19	
12/11/18	3/29/19	
1/9/19	4/19/19	
1/25/19	4/24/19	
2/5/19	5/02/19	

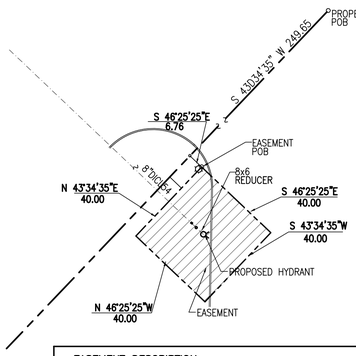
DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: SITE LAYOUT PLAN

SHEET NO.: C3



EASEMENT DESCRIPTION

40'x40' FIRE HYDRANT EASEMENT LOCATED IN SECTION 6 T3S R6E CITY OF ANN ARBOR
DESCRIBED AS:
FROM PROPERTY POINT OF BEGINNING ON THE SOUTHERLY LINE OF ANN ARBOR–SALINE ROAD S 43°34'35"W 249.65 ALONG WESTERLY PROPERTY LINE;
THENCE S 46°25'25"E 6.76 FT TO EASEMENT POINT OF BEGINNING;
THENCE S 46°25'25"E. 40.00 FT.;
THENCE S 43°34'35"W. 40.00 FT.
THENCE N 46°25'25"W. 40.00 FT.
THENCE N 43°34'35"E. 40.00 FT. TO THE POINT OF BEGINNING

EASEMENT"B"

A sanitary sewer easement of varying width being a part of the S.W. 1/4 of Section 5 and the S.E. 1/4 of Section 6, City of Ann Arbor, Washtenaw County, Michigan, described as follows:

Commencing at the S. 1/4 corner of Section 5, T.3S., R.6E., City of Ann Arbor, Washtenaw County, Michigan, and proceeding thence S 86° 38' 10" W 722.68 feet along the south line of said section and N 03° 21' 50" W 25.18 feet to the point of beginning, proceeding thence 1276.72 feet along the arc of a curve to the right having a radius of 1643.86 feet passing through a central angle of 44° 29' 57" with a long chord bearing N 70° 16' 39" W 1244.87 feet; thence N 48° 01' 40" W 1535.58 feet; thence N 41° 58' 20" E 3.52 feet; thence S 51° 38' 07" E 359.93 feet; thence S 77° 31' 25" E 139.83 feet; thence S 48° 01' 40" E 603.83 feet; thence S 43° 57' 53" E 305.77 feet; thence S 47° 55' 16" E 248.96 feet; thence S 56° 51' 24" E 268.36 feet; thence S 69° 11' 08" E 397.13 feet; thence S 78° 43' 14" E 381.54 feet; thence S 43° 00' 00" E 85.02 feet to point of beginning.

Also, a 50-foot wide temporary construction easement lying north of the above described sanitary sewer easement, said temporary easement to revert back to the owner upon City acceptance of the sanitary sewer.

PER LIBER 1784, PAGE 569

ALSO A 50 FT WIDE TEMPORARY CONSTRUCTION EASEMENT LYING NORTH OF THE ABOVE DESCRIBED SANITARY SEWER EASEMENT, SAID TEMPORARY EASEMENT TO REVERT BACK TO THE OWNER UPON CITY ACCEPTANCE OF THE SANITARY SEWER.

DATE: 03/05/19
JOB NO. 2686
DRAWING NO.
SHEET: 1 OF 1
SCALE: NTS

EXHIBIT B

ANN ARBOR–SALINE ROAD
ANN ARBOR, MICHIGAN

T.S. QUATRO COMPANY
DESIGN BUILD CONTRACTOR
COMMERCIAL/INDUSTRIAL/RESIDENTIAL
201 NORTH PARK STREET
YPSILANTI, MI. 48198
PHONE (734)485–7737
FAX (734)485–7873

DATE: 05/03/19
JOB NO. 2686
DRAWING NO.
SHEET: 1 OF 1
SCALE: 1"=30'

EXHIBIT A

ANN ARBOR–SALINE ROAD
ANN ARBOR, MICHIGAN

T.S. QUATRO COMPANY
DESIGN BUILD CONTRACTOR
COMMERCIAL/INDUSTRIAL/RESIDENTIAL
201 NORTH PARK STREET
YPSILANTI, MI. 48198
PHONE (734)485–7737
FAX (734)485–7873

SANITARY FLOW MITIGATION CALCULATIONS:

PROPOSED USE: NEW RETAIL – DRY STORAGE	4,509	0.03 GPD/SFT / 1440 MIN/DAY	0.094 GPM
TOTAL EXISTING FLOW:			0.094 GPM

0.094 GPM * 4(PEAKING FACTOR) * 1.1 (SYSTEM RECOVERY FACTOR)= 0.41 GPM

ADDITIONAL STORAGE REQUIRED:

C = .81
A = 1.44 AC

First Flush
Vff = 1392 cf

Bank Full
Vbf = 2141 cf

100 YEARS FLOOD
V_{100} = 7775 cf

SEE CALCULATION ON SHEET C6

5.5' DIA PIPE STORAGE REQUIRED LENGTH

$\frac{Vreq}{\pi x(R)^2} = \frac{19150}{3.14x(2.75)^2} = 807$ LFT

STORAGE PROVIDED

144.1 + 175.3 x 3+ 103.20 + 35.50 + 20.50 = 829 LFT

829 > 807 OK

EXISTING STORAGE REQUIREMENT:

Vff exist= 1720 cf
Vbf exist= 7602 cf
V_{100}exist = 11375 cf
(SEE EXIST SITE CALCULATION ON SHEET C–6))

TOTAL STORAGE REQUIREMENT:

Vff = 1720 + 1392 = 3112cf
Vbf = 7602 + 2141 = 9743cf
V_{100} = 11375 + 7775 = 19150cf

TOTAL DETENTION VOLUME REQUIRED – 19,150cf.

STORAGE CALCULATIONS:

Elevation	Depth	Volume	Total
902.11 RESTR INV	0	0	0
903.49	1.375	4.59x807=3704	3704
904.86	1.375	7.29x807=5883	9587
906.24	1.375	7.29x807=5883	15470
907.61	1.375	4.59x807=3704	19174

19150–REQUIRED > 19174–PROVIDED

First Flush

$\frac{903.49 - 902.11}{3704 - 0} = \frac{Xff - 902.11}{3112 - 0}$

Xff = 903.27

Bank Full

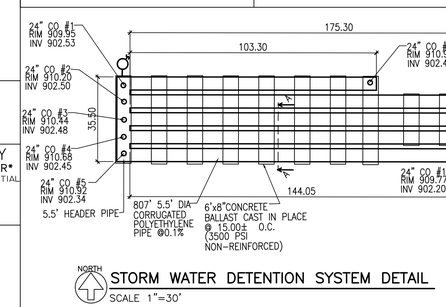
$\frac{906.24 - 904.86}{15470 - 9587} = \frac{Xbf - 904.86}{9743 - 9587}$

Xbf = 904.90

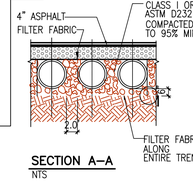
100 year flood

$\frac{907.61 - 906.24}{19174 - 15470} = \frac{X_{100} - 906.24}{19150 - 15470}$

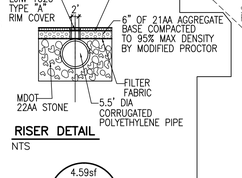
X_{100} = 907.61



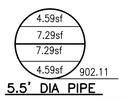
NORTH
STORM WATER DETENTION SYSTEM DETAIL
SCALE 1"=30'



SECTION A–A
NTS



RISER DETAIL
NTS



5.5' DIA PIPE

ORIFICE CALCULATION:

First Flush of runoff

Qff = $\frac{3112}{(24)\ 3600}$ = .036 cfs

Orifice calculation:
Have 2/3 (903.27 – 902.11) = .773

A = $\frac{.036}{.62\sqrt{64.4\ (.773)}}$ = 0.00824 SQF;

use (2) 7/8" dia Hole with A_{ff}=0.00834 sf @ ELEV 902.11

Qff^{new}= (0.00834)x(.773)$\sqrt{64.4\ (.347)}$ = .0305cfs

Tff^{new} = $\frac{3112}{(.0305)3600}$ = 28.34 hr

100 year flood

Have 2/3(907.61 –902.11) = 3.67

Qff+Qbf= .62(.00834)$\sqrt{64.4\ (3.67)}$+0.62(.0063)$\sqrt{64.4\ (907.61–902.11)}$=
= 0.0795 + 0.0735 = 0.114cf

100 YEAR ALLOWABLE RUNOFF RATE
Q_{100} = (0.15) 1.44 – 0.114 = 0.102 cfs

A_{100}= $\frac{0.102}{.62\sqrt{64.4(907.61–904.90)}}$ = 0.0125sf

use (3) 7/8" Hole with A =0.0125 sf @ ELEV 904.90

Bank Full Flood

Have 2/3(904.90 –902.11) = 1.86

Q = .62(.00834)$\sqrt{64.4\ (1.86)}$ = .057

T = $\frac{9743}{(.057)(3600)}$ = 47.48 hr

Vrem = 9743 – 3112 = 6631
Trem = 47.48 – 28.34 = 19.14
VOLUME THROUGH (2) 7/8" HOLE IN 19.14 HOURS:
Have^{ff}= 2/3 (904.90–903.27) + (903.27–902.11)
Have^{ff}= 2.25 ft
Q_1 WILL BE DEFINED AS THE DISCHARGE THROUGH THE ff ORIFICES WHEN BOTH THE ff AND BF HOLES ARE CONTRIBUTING.

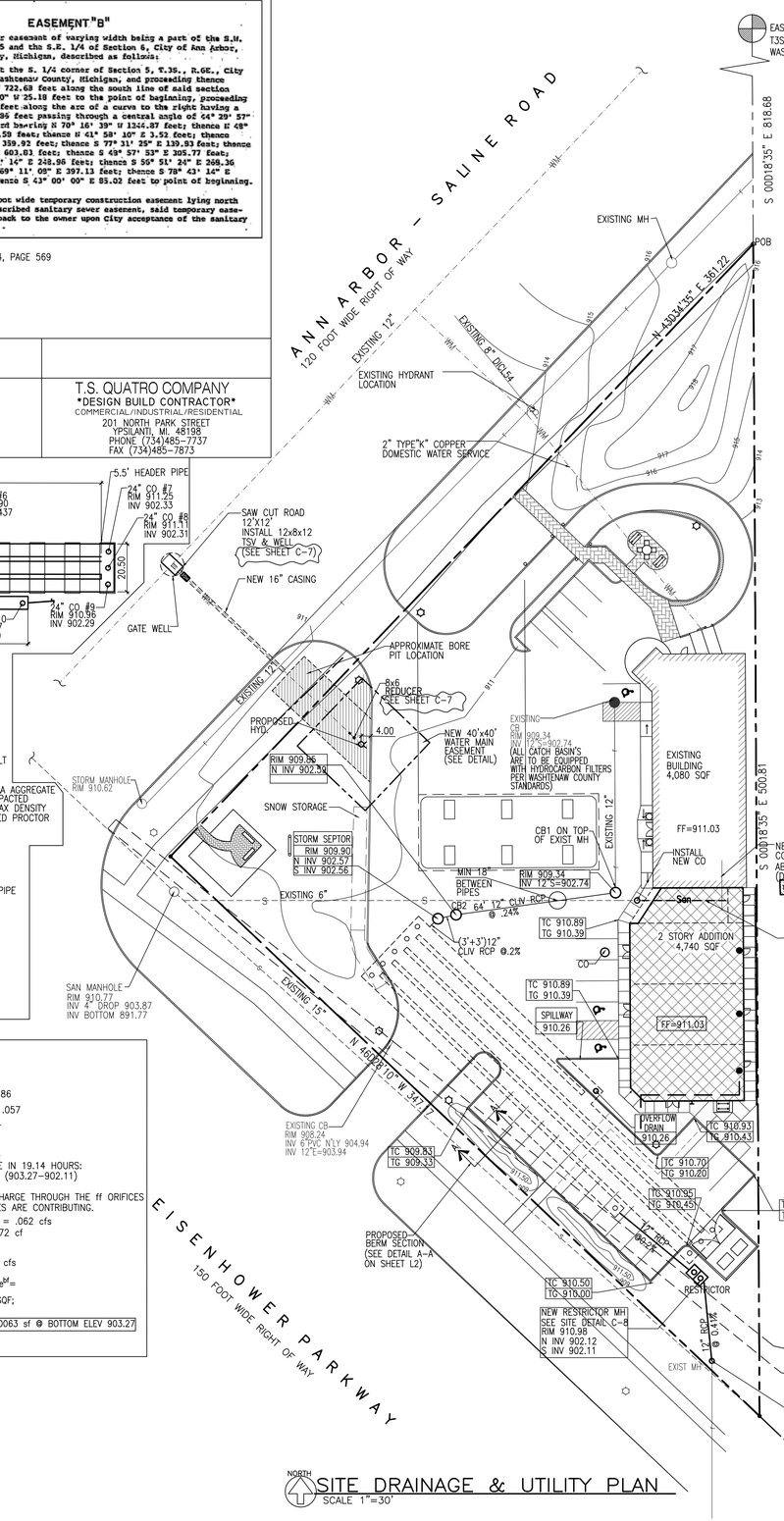
Q_1 = (.62)(.00834)$\sqrt{64.4\ (2.25)}$ = .062 cfs
V_1= 19.14 x (.062) 3600 = 4272 cf
V_2= 6631 – 4272 = 2359 cf

Q_2 = $\frac{V_2}{Trem}$ = $\frac{2359}{19.14x3600}$ = .034 cfs

AVERAGE WATER ELEVATION = Have^{bf}=

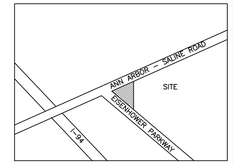
A_{bf}= $\frac{.034}{.62\sqrt{64.4\ (1.09)}}$ = 0.00654 SQF;

use (3) 5/8" dia Hole with A_{bf}=0.0063 sf @ BOTTOM ELEV 903.27



NORTH
SITE DRAINAGE & UTILITY PLAN
SCALE 1"=30'

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
REGISTERED PROFESSIONAL ENGINEER



NORTH
LOCATION MAP
NTS

STORM DETENTION NARRATIVE:

THE EXISTING STORM WATER IS DIRECTED TO A STORM WATER DETENTION BASIN WITH AN OUTLET RESTRICTOR. TOTAL SITE IS 1.44 AC WITH 32,063 SFT OR .74 AC OF IMPERVIOUS AREA AND REQUIRES 11,375 C.F. OF STORAGE. WE HAD A PERK TEST PERFORMED BY "APPLIED GEOTECHNICAL SERVICES", INDICATING THAT THE EXISTING CONDITIONS WERE NOT CONDUCTIVE TO INFILTRATION. THE NEW PROJECT HAS INCREASED THE IMPERVIOUS AREA BY 17,615 SFT. OR .40 AC. THIS INCREASES THE DETENTION VOLUME TO 19,150 CFT. WE PROPOSED TO ACHIEVE THIS BY INSTALLING A COMPLETELY ENCLOSED UNDERGROUND SYSTEM WITH A OUTLET STRUCTURE AS DETAILED ON PLAN.

SITE NOTES

ALL CATCH BASINS ARE TO BE EQUIPPED WITH HYRDROCARBON FILTERS PER WASHTENAW COUNTY STANDARDS

LEGAL DESCRIPTION

PART OF THE SOUTHEAST 1/4 OF SECTION 6, T3S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE EAST 1/4 CORNER OF SAID SECTION 6;
THENCE S 00°18'35"E 818.93 FEET ALONG THE EAST LINE OF SAID SECTION TO A POINT ON THE SIOUTHERLY LINE OF ANN ARBOR–SALINE ROAD FOR A PLACE OF BEGINNING;
THENCE CONTINUING S 00°18'35"E 500.81 FEET ALONG SAID EAST LINE AND THE CENTER LINE VACATED LOHR ROAD TO A POINT ON THE NORTHERLY LINE OF EISENHOWER PARKWAY; THENCE N 46°28'10"W 347.17 FEET ALONG THE NORTHERLY LINE OF SAID EISENHOWER PARKWAY TO THE INTERSECTION WITH SAID SOUTHERLY LINE OF ANN ARBOR–SALINE ROAD; THENCE N 43°34'35"E 361.22 FEET ALONG SAID SOUTHERLY LINE TO THE PLACE OF BEGINNING.
CONTAINING 1.44 ACRES OF LAND, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

CITY STANDARDS

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.

LEGEND

---------S---------S---	PROPOSED STORM
—W———W———W—	PROPOSED WATER
------G---------G------	PROPOSED GAS
------San------	PROPOSED SANITARY
------s------	EXISTING SANITARY
—W———W———W—	EXISTING WATER
------	EXISTING OH WIRES
--G-------G-------	EXISTING GAS
——r——r——	EXISTING STORM
741.75	EXISTING GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CURB
T/G	TOP OF GUTTER
T/W	TOP OF WALK
	HYDRANT
	STRUCTURE
	LIGHT POST
	BIKE RACK

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG 1–800–482–7171 (TOLL FREE)

ROBERT NOE
ARCHITECTURE
9103 WILKINSON #135
TECUMSEH, MI
49286
(734)693–0852

QUATRO CONSTRUCTION LLC
DESIGN BUILD CONTRACTOR
COMMERCIAL/INDUSTRIAL/RESIDENTIAL
201 NORTH PARK STREET
YPSILANTI, MI. 48198
PHONE (734)485–7737, FAX (734)485–7873

SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
5/31/18	7/8/19–REV	5/06/19
9/19/18	7/27/19–REV	5/21/19
10/02/18	7/28/19	7/08/19
10/24/18	8/1/19	7/11/19
10/30/18	8/05/19	7/15/19
11/08/18	8/12/19	REV 1 – 7/19/19
11/09/18	8/22/19	
12/11/18	8/29/19	
1/9/19	4/19/19	
1/25/19	4/24/19	
2/5/19	5/02/19	

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.:
2686

SHEET TITLE:
SITE DRAINAGE & UTILITY PLAN

SHEET NO.:
C4

STORMWATER MANAGEMENT SYSTEM MAINTENANCE PLAN

1. RESPONSIBILITY FOR MAINTENANCE

a. DURING CONSTRUCTION, IT IS THE DEVELOPER'S RESPONSIBILITY TO PERFORM THE MAINTENANCE.

b. FOLLOWING CONSTRUCTION, IT WILL BE THE RESPONSIBILITY OF "OWNER" TO PERFORM THE MAINTENANCE.

c. THE MASTER DEED WILL SPECIFY THAT ROUTINE MAINTENANCE OF THE STORMWATER FACILITIES MUST BE COMPLETED WITHIN DAYS OF RECEIPT OF WRITTEN NOTIFICATION THAT ACTION IS REQUIRED, UNLESS OTHER ACCEPTABLE ARRANGEMENTS ARE MADE WITH THE WASHTENAW COUNTY COMMISSIONER OR SUCCESSORS. EMERGENCY MAINTENANCE (I.E. WHEN THERE IS ENDANGEREMENT TO PUBLIC HEALTH, SAFETY OR WELFARE) SHALL BE PERFORMED IMMEDIATELY UPON RECEIPT OF WRITTEN NOTICE. SHOULD "OWNER" FAIL TO ACT WITHIN THESE TIME FRAMES, THE COUNTY OR SUCCESSORS MAY PERFORM THE NEEDED MAINTENANCE AND ACCESS THE COSTS AGAINST "OWNER".

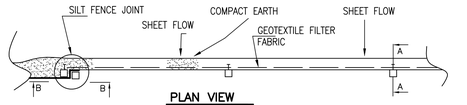
2. SOURCE OF FINANCING

"ONWER" IS REQUIRED TO PAY FOR ALL MAINTENANCE ACTIVITIES ON A CONTINUING BASIS.

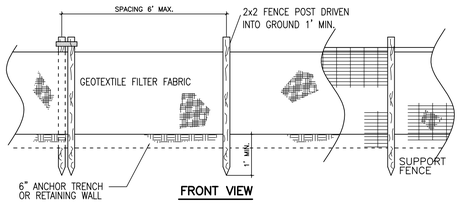
3. MAINTENANCE TASKS AND SCHEDULE.

a. SEE THE CHARTS THIS PAGE.

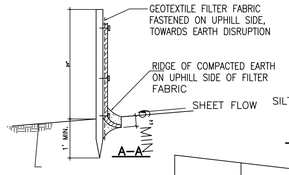
b. IMMEDIATELY FOLLOWING CONSTRUCTION, THE DEVELOPER WILL HAVE THE STORMWATER MANAGEMENT SYSTEM INSPECTED BY AN ENGINEER TO VERIFY GRADES OF THE DETENTION AND FILTRATION AREAS AND MAKE RECOMMENDATIONS. FOR ANY NECESSARY SEDIMENT.



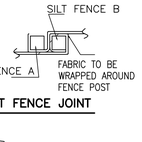
PLAN VIEW



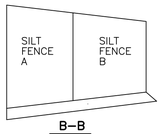
FRONT VIEW



A–A

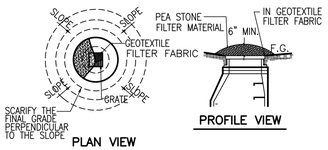


SILT FENCE JOINT



B–B

SILT FENCE DETAIL



PLAN VIEW

PROFILE VIEW

LOW POINT INLET/DANDY BAG FILTER

NTS

LOW POINT INLET FILTER

DEFINITION: A LOW POINT INLET FILTER IS A COMBINATION OF GEOTEXTILE FILTER FABRIC, PEA GRAVEL AND SCARIFICATION AROUND THE GRATE OF A LOW POINT INLET STRUCTURE.

PURPOSE: LOW POINT INLET FILTERS PROVIDE A METHOD OF CONTROLLING THE AMOUNT OF SEDIMENT

WHERE APPLICABLE LOW POINT INLET FILTERS ARE USED AT ALL LOW POINT INLETS PRIOR TO THE STABILIZATION OF THE ADJACENT AREAS.

MAINTENANCE TASKS & SCHEDULE DURING CONSTRUCTION

	COMPONENTS							
	STORM SEWER SYSTEM	CATCH BASIN INLET CASINGS	CATCH BASIN INLET CASINGS	OUTFLOW CONTROL STRUCTURE	FILTRATION BASINS	STORM DETENTION AREAS	HYDROCARBON FILTERS	SCHEDULE
INSPECT FOR SEDIMENT ACCUMULATION	X	X		X	X	X	X	WEEKLY
REMOVAL OF SEDIMENT ACCUMULATION	X	X		X	X	X	X	AS NEEDED* & PRIOR TO TURNOVER
INSPECT FOR FLOATABLES & DEBRIS			X	X	X	X	X	QUARTERLY
CLEANING OF FLOATABLES & DEBRIS			X	X	X	X	X	QUARTERLY AND AT TURNOVER
INSPECTION FOR EROSION				X	X	X		WEEKLY
MOWING			X	X	X	X	X	0 TO 2 TIMES PER YEAR
INSPECT STORMWATER SYSTEM COMPONENTS DURING WET WEATHER & COMPARE TO AS-BUILT PLANS(BY PROFESSIONAL ENGINEER REPORTING TO "CIRCLE K")			X	X	X	X	X	ANNUALLY AND AT TURNOVER
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION	X	X	X	X	X	X	X	AS NEEDED

*AS NEEDED MEANS WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES LEGEND

1	STRIPPING & STOCKPILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVISION. STOCKPILE SHOULD BE TEMPORARILY SEEDED.
13	RIP-RAP	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED. EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS. PERMITS RUNOFF TO INFILTRATE SOIL. DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS.
14	AGGREGATE COVER	STABILIZES SOIL SURFACE THUS MINIMIZING EROSION. PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER. MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS.
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED BUT INCREASES RUNOFF VOLUME AND VELOCITY. IRREGULAR SURFACE WILL HELP SLOW VELOCITY.
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREA FROM LEAVING PAVED SURFACE. COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY.
18	DIVERSION BERM	DIVERTS WATER FROM VULNERABLE AREAS. COLLECTS AND DIRECTS WATER TO PREPARED DRAINAGEWAYS. MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION.
39	ROCK FILTER	CAN UTILIZE MATERIAL FOUND ON SITE. EASY TO CONSTRUCT. FILTERS SEDIMENT FROM RUNOFF.
54	SILT FENCE	FILTERS AND DETAINS RUNOFF.

PROPOSED CONSTRUCTION SCHEDULE

ACTIVITY	TIME
PRE-GRADING MEETING	1 DAY
INSTALL SOIL EROSION	2 DAY
DEMOLITION	3 DAY
ROUGH GRADE SITE	1 W
PLACE DETENTION	2 W
DIG FOUNDS FOR BUILD/DUMP	1 DAY
INSTALL STORM CEPTOR	2 DAY
PLACE BUILDING FOUNDATIONS	1 DAY
PLACE CANOPY FOUNDATIONS	1 DAY
PREP SITE	2 DAY
FORM & POUR CONCRETE	2 DAY
BLOCK DUMPSTER	5 DAY
TIE INTO & ABANDON UTILITIES	3 DAYS
FINAL GRADE	2 DAY
PLACE STONE FOR CONCRETE	2 DAY
PLACE CONCRETE & CAULK	3 DAY
INSTALL STEEL	2 W
BLOCK BUILDING	10 DAY
FRAMING BUILD	3 W
INSTALL PERIMETER FENCE S&W	2 DAY
INSTALL IRRIGATION	2 DAY
LANDSCAPE	2 DAY
INSTALL ROOF	3 DAY
SEED DISTURBED AREA	1 DAY
CLEAN SITE	1 DAY
REMOVE SILT FENCE (AFTER GROWTH OF 90%)	21 DAYS

82 CALENDAR DAYS

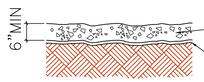
PERMANENT MAINTENANCE TASKS & SCHEDULE

	COMPONENTS						
	CATCH BASIN INLET CASINGS	DITCHES & SWALES	OUTFLOW CONTROL STRUCTURE	FILTRATION BASINS	STORM DETENTION AREAS	HYDROCARBON FILTERS	SCHEDULE
INSPECT FOR SEDIMENT ACCUMULATION		X	X	X	X	X	ANNUALLY
REMOVAL OF SEDIMENT ACCUMULATION		X	X	X	X	X	EVERY 2 YEARS AS NEEDED
INSPECT FOR FLOATABLES & DEBRIS	X	X	X	X	X	X	ANNUALLY
CLEANING OF FLOATABLES & DEBRIS INSPECTION	X	X		X	X	X	ANNUALLY
FOR EROSION		X	X	X	X	X	ANNUALLY
MOWING				X	X	X	0 TO 2 TIMES PER YEAR
INSPECT STORMWATER SYSTEM COMPONENTS DURING WET WEATHER & COMPARE TO AS-BUILT PLANS(BY PROFESSIONAL ENGINEER REPORTING TO "CIRCLE K")	X	X	X	X	X	X	ANNUALLY
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION	X	X	X	X	X	X	AS NEEDED
KEEP RECORDS OF ALL COSTS FOR INSPECTIONS, MAINTENANCE AND REPAIRS. REPORT TO "SHELL STATION"							ANNUALLY

EROSION COST ESTIMATE:
SILT FENCE: $3,150
TRACKING MAT: $700
TOTAL: $3,850

GRASS SEED: $3 PER SQFT OF THE 1,850SQFT LANDSCAPING ISLAN.

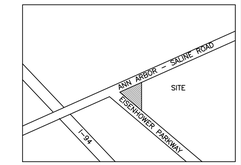
EXCAVATION & FILL ESTIMATES FOR THE SITE:
EXCAVATION: 40 YDS
FILL: 55 YDS



TEMPORARY TRACKING MAT DETAIL

NTS

NORTH
SOIL EROSION PLAN
SCALE 1"=30'



NORTH
LOCATION MAP
NTS

SOIL ANALYSIS

GENERAL NOTES

1. PERIODIC INSPECTION AND MAINTENANCE MUST BE PROVIDED TO INSURE THAT THE LOW POINT INLET FILTER OPERATED EFFICIENTLY.
2. FOR INCREASED DRAINAGE 1" HOLES CAN BE PUNCHED INTO THE CATCH BASIN CONE AND BACKFILLED WITH GRAVEL.
3. INLET PROTECTION SHOULD BE SILTSACKS/DANDY BAGS, SEDIGUARD, OR EQUAL.

LEGAL DESCRIPTION

PART OF THE SOUTHEAST 1/4 OF SECTION 6, T3S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE EAST 1/4 CORNER OF SAID SECTION 6; THENCE S 00°18'35"E 818.93 FEET ALONG THE EAST LINE OF SAID SECTION TO A POINT ON THE SIOUTHERLY LINE OF ANN ARBOR-SALINE ROAD FOR A PLACE OF BEGINNING; THENCE CONTINUING S 00°18'35"E 500.81 FEET ALONG SAID EAST LINE AND THE CENTER LINE VACATED LOHR ROAD TO A POINT ON THE NORTHERLY LINE OF EISENHOWER PARKWAY; THENCE N 46°28'10"W 347.17 FEET ALONG THE NORTHERLY LINE OF SAID EISENHOWER PARKWAY TO THE INTERSECTION WITH SAID SOUTHERLY LINE OF ANN ARBOR-SALINE ROAD; THENCE N 43°34'35"E 361.22 FEET ALONG SAID SOUTHERLY LINE TO THE PLACE OF BEGINNING.

CONTAINING 1.44 ACRES OF LAND, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

CITY STANDARDS

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS."

SILT FENCE

DEFINITION: SILT FENCE IS A TEMPORARY SEDIMENTATION CONTROL MEASURE CONSISTING OF WOODEN OR OTHER FENCE POSTS, A FASTENER SYSTEM AND A GEOTEXTILE FILTER FABRIC.
PURPOSE: SILT FENCE (1) REDUCE THE VELOCITY OF SHEET FLOW TO A NON-EROSIVE LEVEL, AND (2) RETAIN SUSPENDED SOIL PARTICLES AND PREVENT THEM FROM LEAVING THE CONSTRUCTION SITE.
WHERE APPLICABLE SILT FENCE MAY BE INSTALLED WHERE SHEET FLOW EROSION CONTROL AND SEDIMENTATION CONTROL ARE NECESSARY, GENERLY BY BY SITE PERIMETER. SILT FENCE SHALL NOT BE USED WHERE CONCENTRATED FLOWS SUCH AS DITCHES AND/OR SWELLS, MAY DEVELOP.

DESIGN CRITERIA

LOCATION: INSTALL ALONG A CONTOUR LINE, OR EQUAL ELEVATION ON A SLOPE, WHERE SHEET FLOW MAY DEVELOP. A MAXIMUM SHEET FLOW PATH OF 100 FEET TO THE SILT FENCE SHALL BE SPECIFIED. MULTIPLE ROWS OF SILT FENCE TO BE SPACED NO GREATER THAN 100 FEET. SILT FENCE, IN GENERAL WILL FAIL UNDER THE STRESS OF CONCENTRATED FLOWS.

SLOPE: 2:1 MAXIMUM SLOPE TO SILT FENCE

WHERE NECESSARY A SUPPORT FENCE SHALL BE USED TO SUPPORT THE GEOTEXTILE FILTER FABRIC. HARDWARE CLOTH, STRAW BALES, OR APPROVED EQUAL SHALL BE USED IF REQUIRED. A MAXIMUM SPACING OF 6' BETWEEN SUPPORTING FENCE POSTS SHALL BE SPECIFIED. THE GEOTEXTILE FILTER FABRIC SHALL BE FASTENED TO THE SUPPORTING FENCE POSTS ON THE UPHILL SIDE OF THE SLOPE.

EXCAVATE A 6"x6" ANCHOR TRENCH. THE TAIL OF THE GEOTEXTILE FILTER FABRIC SHALL BE TUCKED INTO THE TRENCH AND THE BACKFILL SHALL BE COMPACTED UP AGAINST THE FILTER FABRIC.

CONCRETE WASHOUT NOTES

1. CONCRETE WASHOUT SHALL BE A VINYL WASHOUT CONTAINER OR EQUAL.
2. IF VINYL LINER AND HALE BALES TO BE UTILIZED REGULAR DAILY VERIFICATIONS OF THE HALE BALES MUST BE MADE TO PREVENT FAILURE.
3. WASHOUT CONTAINER SHALL BE MIN 50' FROM STORM WATER INLETS.
4. WASHOUT CONTAINER SHALL BE A MIN 50' FROM LANDSCAPE DITCHES.
5. WHEN CONTAINER IS 75% FILLED IT SHALL BE EMPTIED AND A NEW FILTER LINER SHALL BE INSTALLED.

RESTRICTOR MAINTENANCE:

1. ALL UNITS SHALL BE INSPECTED POST-CONSTRUCTION, PRIOR TO BEING PUT INTO START OF SERVICE.
2. INSPECT EVERY THREE MONTHS FOR THE FIRST YEAR OF OPERATION TO DETERMINE THE OIL AND SEDIMENT ACCUMULATION RATE. FOR FUTURE MAINTENANCE NEEDS.
3. IN FOLLOWING YEARS, INSPECTIONS CAN BE BASED ON FIRST-YEAR OBSERVATIONS OR LOCAL REQUIREMENTS.
4. A LICENCE WASTE MANAGEMENT COMPANY SHOULD REMOVE CAPTURED PETROLEUM WASTE PRODUCTS FROM ANY OIL, CHEMICAL OR FUEL SPILLS AND DISPOSE RESPONSIBLY.
5. CLEANING IS REQUIRED ONCE THE SEDIMENT DEPTH REACHES 15% OF STORAGE CAPACITY, (AVERAGE ONCE A YEAR OR LONGER). LOCAL REGULATIONS FOR MAINTENANCE FREQUENCY MAY VARY.
6. INSPECT THE UNIT IMMEDIATELY AFTER AND OIL, FUEL OR CHEMICAL SPILL.

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE)

ROBERT NOE ARCHITECTURE
9103 WILSON #135
YPSILANTI, MI 48197
(734)693-0852

QUATRO CONSTRUCTION LLC
DESIGN BUILD CONTRACTOR
COMMERCIAL/INDUSTRIAL/RESIDENTIAL
201 NORTH PARK STREET
YPSILANTI, MI. 48198
PHONE (734)485-7737, FAX (734)485-7873

SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
5/31/18		5/06/19
9/19/18		5/21/19
10/02/18	9/28/19	7/08/19
10/24/18	3/1/19	7/11/19
10/30/18	3/05/19	7/15/19
11/08/18	3/12/19	7/16/19
11/09/18	3/22/19	
12/11/18	3/29/19	
1/9/19	4/19/19	
1/25/19	4/24/19	
2/5/19	5/02/19	

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: SOIL EROSION PLAN

SHEET NO.: C5

Section IV: Computational Requirements For Stormwater Management Systems

Part E. STANDARD METHOD RUNOFF VOLUME WORK SHEETS

W1 Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Total Site Area = .47 ac
Total Site Area Excluding "Self- Crediting" BMPs = — ac[A]

Rational Method Variables[B]

Cover Type	Soil Type	Area (ft²)	Area(ac)	Runoff Coefficient (c)	(C) (Area)
Building	D	3900	.09	.95	.09
PAVEMENT	D	13715	.31	.95	.29
Green	D	3085	.07	.30	.02

Total - ∑(C)(Area) = .40
Area Total - ∑ac or ∑sf = .47
Weighted C - ∑(C)(Area)/∑ac or ∑sf = .85

NRCS Variables[C]

Pervious Cover Type	Soil Type	Area (ft²)	Area(ac)	Curve Number	(CN) (Area)
Green	D	3085	.07	80	5.6

Total - ∑(CN)(Area) = 5.6
Area Total - ∑ac or ∑sf = .07
Weighted CN - ∑(CN)(Area)/∑ac or ∑sf = 80

NRCS Variables[C]

Impervious Cover Type	Soil Type	Area (ft²)	Area(ac)	Curve Number	(CN) (Area)
Building	D	3900	.09	89	7.12
PAVEMENT	D	13715	.31	89	27.59

Total - ∑(CN)(Area) = 34.71
Area Total - ∑ac or ∑sf = .40
Weighted CN - ∑(CN)(Area)/∑ac or ∑sf = 87

[A] Use this area for the remainder of the runoff calculations
[B] Required for first flush runoff calculations
[C] Required for bankfull and 100-year runoff calculations

Section IV: Computational Requirements For Stormwater Management Systems

W2 Standard Method Runoff Volume Calculations

First Flush Runoff Calculations (V_{ff})

A. $V_{ff}=(1")\left(\frac{1'}{12"}\right)\left(\frac{43560ft^2}{1ac}\right)AC$ $V_{ff}=(1")\left(\frac{1'}{12"}\right)\left(\frac{43560ft^2}{1ac}\right)(.47)(.85)$

V_{ff} = 1392 ft³

A = Total Site Areas (ac) excluding "Self-Crediting" BMPs from Worksheet 1
C= Weighted Runoff Coefficient from Worksheet 1

Section IV: Computational Requirements For Stormwater Management Systems

W3 Standard Method Runoff Volume Calculations

Pre-development Bankfull Runoff Calculations ($V_{bf\text{-}pre}$)

A. 2 year/24 hour storm event P = 2.35in

B. The pre-development land cover will be **Good Cover Woods or Meadow.** Determine the associated soil hydrologic group for the entire site and choose the curve number. CN = 89

C. $S = \frac{1000}{CN} - 10$ $S = \frac{1000}{\_\_} - 10$ S = 1.23 in

D. $Q = \frac{(P-0.2S)^2}{(P+0.8S)}$ $Q = \frac{(2.35-(0.2)(\_))^2}{(2.35+(0.8)(\_))}$ Q = 1.32 in

E. Total Site Area (sf) excluding "Self- Crediting" BMPs Area = 20,704 sf

F. $V_{bf\text{-}pre} = Q(1/12)Area$ $V_{bf\text{-}pre} = (\_)(1/12)(\_)$ $V_{bf\text{-}pre}$ = 2,277 ft³

Section IV: Computational Requirements For Stormwater Management Systems

W4 Standard Method Runoff Volume Calculations

Pervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}per\text{-}post}$)

A. 2 year/24 hour storm event P = 2.35in

B. Pervious Cover CN From Worksheet 1 CN = 80

C. $S = \frac{1000}{CN} - 10$ $S = \frac{1000}{\_\_} - 10$ S = 2.50 in

D. $Q = \frac{(P-0.2S)^2}{(P+0.8S)}$ $Q = \frac{(2.35-(0.2)(\_))^2}{(2.35+(0.8)(\_))}$ Q = .79 in

E. Pervious Cover Area from Worksheet 1 Area = 3085 sf

F. $V_{bf\text{-}per\text{-}post} = Q(1/12)Area$ $V_{bf\text{-}per\text{-}post} = (\_)(1/12)(\_)$ $V_{bf\text{-}per\text{-}post}$ = 203 ft³

Section IV: Computational Requirements For Stormwater Management Systems

W5 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development Bankfull Runoff Calculations ($V_{bf\text{-}imp\text{-}post}$)

A. 2 year/24 hour storm event P = 2.35in

B. Impervious Cover CN From Worksheet 1 CN = 89

C. $S = \frac{1000}{CN} - 10$ $S = \frac{1000}{\_\_} - 10$ S = 1.23 in

D. $Q = \frac{(P-0.2S)^2}{(P+0.8S)}$ $Q = \frac{(2.35-(0.2)(\_))^2}{(2.35+(0.8)(\_))}$ Q = 1.32 in

E. Impervious Cover Area from Worksheet 1 Area = 17,615 sf

F. $V_{bf\text{-}imp\text{-}post} = Q(1/12)Area$ $V_{bf\text{-}imp\text{-}post} = (\_)(1/12)(\_)$ $V_{bf\text{-}imp\text{-}post}$ = 1938 ft³

Section IV: Computational Requirements For Stormwater Management Systems

W6 Standard Method Runoff Volume Calculations

Pervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100\text{-}per\text{-}post}$)

A. 100-year Storm Event P = 5.11in

B. Pervious Cover CN From Worksheet 1 CN = 80

C. $S = \frac{1000}{CN} - 10$ $S = \frac{1000}{\_\_} - 10$ S = 2.15 in

D. $Q_{100\text{-}per} = \frac{(P-0.2S)^2}{(P+0.8S)}$ $Q_{100\text{-}per} = \frac{(5.11-(0.2)(\_))^2}{(5.11+0.8(\_))}$ $Q_{100\text{-}per}$ = 2.99 in

E. Pervious Cover Area from Worksheet 1 Area = 3085 sf

F. $V_{100\text{-}per\text{-}post} = Q(1/12)Area$ $V_{100\text{-}per\text{-}post} = (\_)(1/12)(\_)$ $V_{100\text{-}per\text{-}post}$ = 769 ft³

Section IV: Computational Requirements For Stormwater Management Systems

W7 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development 100-year Storm Runoff Calculations ($V_{100\text{-}imp\text{-}post}$)

A. 100-year Storm Event P = 5.11in

B. Impervious Cover CN From Worksheet 1 CN = 89

C. $S = \frac{1000}{CN} - 10$ $S = \frac{1000}{\_\_} - 10$ S = 1.23 in

D. $Q_{100\text{-}imp} = \frac{(P-0.2S)^2}{(P+0.8S)}$ $Q_{100\text{-}imp} = \frac{(5.11-(0.2)(\_))^2}{(5.11+0.8(\_))}$ $Q_{100\text{-}imp}$ = 3.89 in

E. Impervious Cover CN From Worksheet 1 Area = 17,615 sf

F. $V_{100\text{-}imp\text{-}post} = Q(1/12)Area$ $V_{100\text{-}imp\text{-}post} = (\_)(1/12)(\_)$ $V_{100\text{-}imp\text{-}post}$ = 5710 ft³

Section IV: Computational Requirements For Stormwater Management Systems

W8 Standard Method Runoff Volume Calculations

Determine Time of Concentration for Applicable Flow Types ($T_{c\text{-}hrs}$)

Flow Type	K	Change in Elevation	Length (L)	Slope % (S)	$S^{0.5}$	$V=K*S^{0.5}$	Tc=L/(V*3600)
Sheet Flow*	0.48	6.17	278	2.22	1.49	.72	1.08
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Waterway	1.2						
Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						
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Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						
Small Tributary	2.1						

* *Sheet flow cannot exceed 300 feet. Anything beyond this is considered waterway.*

Total Time of Concentration ($T_{c\text{-}hrs}$) = ______

Section IV: Computational Requirements For Stormwater Management Systems

W9 Standard Method Runoff Volume Calculations

Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

First Flush Volume (V_{ff}) 1392 ft³
Pre-Development Bankfull Runoff Volume ($V_{bf\text{-}pre}$) 2277 ft³
Pervious Cover Post-Development Bankfull Volume ($V_{bf\text{-}per\text{-}post}$) 203 ft³
Impervious Cover Post-Development Bankfull Volume ($V_{bf\text{-}imp\text{-}post}$) 1938 ft³

Total BF Volume ($V_{bf\text{-}post}$) 2141 ft³

Pervious Cover Post-Development 100-year Volume ($V_{100\text{-}per\text{-}post}$) 769 ft³
Impervious Cover Post-Development 100-year Volume ($V_{100\text{-}imp\text{-}post}$) 5710 ft³

Total 100-year Volume (V_{100}) 6479 ft³

B. Determine Onsite Infiltration Requirement

Subtract the Pre-Development Bankfull from the Post-Development Bankfull volume

Total Post-Development Bankfull Volume ($V_{bf\text{-}post}$) — ft³
Pre-Development Bankfull Runoff Volume ($V_{bf\text{-}pre}$) — ft³
Bankfull Volume Difference — ft³

Compare the Bankfull Volume Difference with the First Flush Volume. The ***greater*** of the two is the Onsite Infiltration Requirement.

Onsite Infiltration Requirement (V_{inf}) — ft³

Section IV: Computational Requirements For Stormwater Management Systems

W10 Standard Method Runoff Volume Calculations

Detention/Retention Requirement

Detention

A. $Q_p = 238.6T_c^{-0.82}$ $Q_p = 238.6(\_\_)^{-0.82}$
Peak of the Unit Hydrograph Q_p = 224 cfs/in-mi²

B. *Total Site Area (ac) excluding "Self-Crediting" BMPs* *Area* = .47 *ac*

C. $Q_{100} = Q_{100\text{-}per} + Q_{100\text{-}imp}$ Q_{100} = 769 + 5710
Note: $Q_{100\text{-}per}$ and $Q_{100\text{-}imp}$ from W6 and W7, respectively Q_{100} = 6479 in

D. *Peak Flow (PF)* $= \frac{Q_p\left(\frac{cfs}{in-mi^2}\right)Q_{100(in)}Area(ac)}{640}$ $PF = \frac{(\_\_)(\_\_)(\_\_)}{640}$
PF = 1066 cfs

E. Δ = PF (cfs) – 0.15 Area(ac) Δ = (____) -0.15 (____)
Δ = 1066 cfs

F. $V_{det} = \frac{\Delta(cfs)}{PF(cfs)} V_{100}$ (ft³) $V_{det} = \frac{(1066)}{(1066)}(6479)$
V_{det} = 6479 ft³

V_{det} = Calculated Detention (ft³), <u>not</u> including volume reduction credit for infiltration or penalty

Note: Projects/sites where the required infiltration volume cannot be achieved must increase the required detention volume by up to an additional 20%.

Retention

A. $V_{ret} = 2(V_{100})$ V_{ret} = 2(________)
V_{ret} = ________ ft³

Section IV: Computational Requirements For Stormwater Management Systems

W11 Standard Method Runoff Volume Calculations

Determine Applicable BMPs and Associated Volume Credits

Proposed BMP[A]	Area (ft²)	Storage Volume[B] (ft³) Surface / Soil	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm[C] (ft³)	Total Volume Reduction[D] (ft³)
Pervious Pavement w/Infiltration Bed	N/A				
Infiltration Basin	N/A				
Subsurface Infiltration Bed	N/A				
Infiltration Trench	N/A				
Bioretention Systems	N/A				
Rain Gardens	N/A				
Dry Well	N/A				
Bioswale	N/A				
Vegetated Filter Strip	N/A				
Green Roof	N/A				

Total Volume Reduction Credit by Proposed Structural BMPs (ft³) ________
Runoff Volume Infiltration Requirement (V_{inf}) from Worksheet 9 - ________
Runoff Volume Credit (ft³) = ________

[A] Complete checklist from Section VI for each Structural BMP type
[B] Storage volume as defined in individual BMP write-ups
[C] Approximated as the average design infiltration rate over 6 hours multiplied by the BMP area:
Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft³)
[D] Total Volume Reduction Credit is the sum of the Storage Volume and the Infiltration Volume During Storm

Section IV: Computational Requirements For Stormwater Management Systems

W12 Natural Features Inventory

1. Provide Natural Resources Map. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes and other natural features.
2. Summarize the existing extent of each natural resource in the Existing Natural Resources Table.
3. Summarize total proposed Protected/Undisturbed Area.
4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

Existing Natural Resources	Mapped (yes, no, n/a)	Total Area (ac)	Protected/Undisturbed Area (ac)
Waterbodies	NO		
Floodplains	NO		
Riparian Areas	NO		
Wetlands	NO		
Woodlands	NO		
Natural Drainage Area	NO		
Steep Slopes, 15%-25%	NO		
Steep Slopes, over 25%	NO		
Special Habitat Areas	NO		
Other	NO		
TOTAL EXISTING (ac)	NO		

Section IV: Computational Requirements For Stormwater Management Systems

W13 Summary

Site Summary of Infiltration & Detention

A. Stormwater Management Summary

Minimum Onsite Infiltration Requirement, V_{inf} — ft³
Designed/Provided Infiltration Volume — ft³
% Minimum Required Infiltration Provided — %
Total Calculated Detention Volume, V_{det} 6479 ft³
Net Required Detention Volume
(V_{det} - Designed/Provided Infiltration Volume) 6479 ft³

B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved

% Required Infiltration NOT provided
(100% - % Minimum Required Infiltration Provided) ____ %

Net % Penalty
(20% x % Required Infiltration NOT Provided) 1296 %

Total Required Detention Volume, including penalty
[(100% + Net % Penalty) x Net Required Detention Volume)] 7775 ft³

EXISTING

STORM WATER DETETNION CALCULATIONS

LOT AREA = 62,726 SF = 1.44 AC

IMPERVIOUS AREAS

	AREA (SF)	C	CxA
BUILDING FOOTPRINT	4,080	0.95	3,876
PARKING AREA	27,983	0.95	26,584
TOTAL	32,063		30,460
LANDSCAPE AREAS			
GREENBELTS & ISLANDS	30,663	0.30	9,199

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SITE RUNOFF COEFFICIENT:

$$C_{site} = \frac{\sum CA}{\sum A} = \frac{39,659}{62,726} = 0.63$$

ALLOWABLE RELEASE RATE IS 0.15 CFS/AC

Qa=(0.15 cfs/ac)(1.44 Ac)=0.22 cfs

100 YEAR FLOOD VOLUME:

$$Qo = \frac{Qa}{CsA} = \frac{0.22}{(0.63)(1.44)} = 0.242\frac{cfs}{Ac-imp}$$

$$T = -25 + \sqrt{\frac{10312.5}{Qo}} = -25 + \sqrt{\frac{10312.5}{0.24}} = 181.22 \text{ min.}$$

$$Vs = \frac{16500\,T}{T+25} - 40QoT = \frac{16500(181.22)}{181.22+25} - 40(0.24)(181.22) = 12,742 \text{ cf/Ac-imp}$$

Vt=VsxAxCsite = (12,742)(1.44Ac)(0.62)=11,375 cf

TOTAL DETENTION VOLUME REQUIRED 11,375 CF

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
LICENSED PROFESSIONAL ENGINEER

DATE: 04/01/2019

ROBERT NOE
ARCHITECTURE
9103 N.UNION #135
TECUMSEH, MI
49286
(734)693-0852

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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
11-13-18
3-25-19

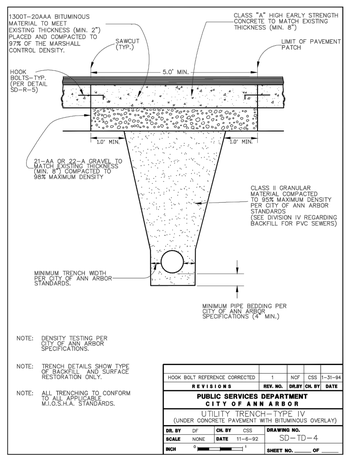
DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: SITE CALCULATIONS 1

SHEET NO.: C6

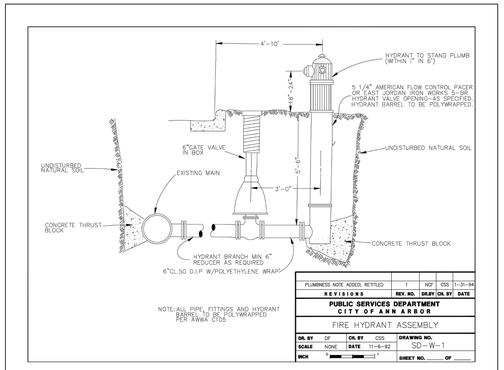


HOOK BOLT REFERENCE CORRECTED	1	NCF	CSS	1-31-94
REVISIONS	REV. NO.	DR.BY	CH. BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

UTILITY TRENCH-TYPE IV
(UNDER CONCRETE PAVEMENT WITH BITUMINOUS OVERLAY)

DR. BY	DF	CH. BY	CSS	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-TD-4
INCH				SHEET NO. ____ OF ____

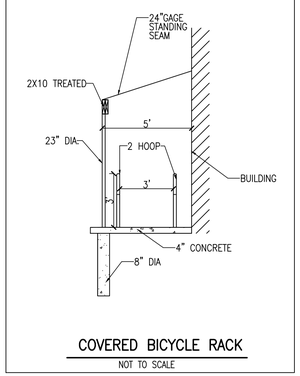


PLUMBERS NOTE ADDED, RETITLED	1	NCF	CSS	1-31-94
REVISIONS	REV. NO.	DR.BY	CH. BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

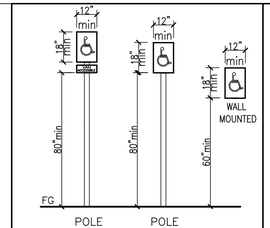
FIRE HYDRANT ASSEMBLY

DR. BY	DF	CH. BY	CSS	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-W-1
INCH				SHEET NO. ____ OF ____



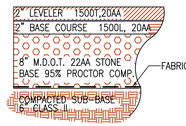
COVERED BICYCLE RACK

NOT TO SCALE



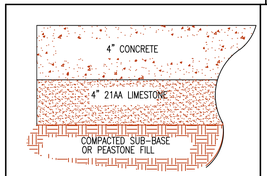
ADA BARRIER FREE SIGN MOUNTING HEIGHTS

N.T.S.



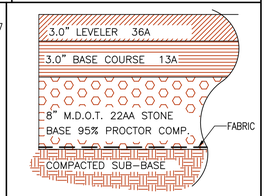
ASPHALT – MEDIUM DUTY

NOT TO SCALE



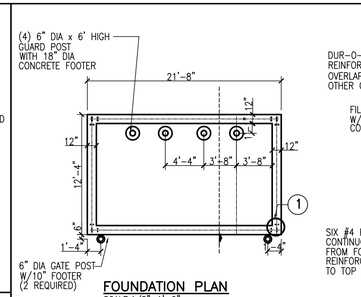
CONCRETE – LIGHT DUTY

NOT TO SCALE



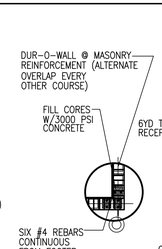
MDOT ASPHALT – HEAVY DUTY

NTS



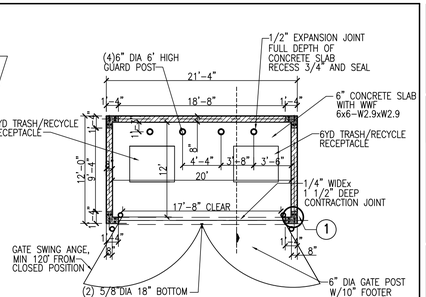
FOUNDATION PLAN

SCALE:1/8"=1'-0"



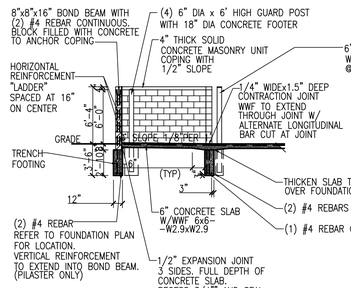
DETAIL 1

SCALE:1/4"=1'-0"



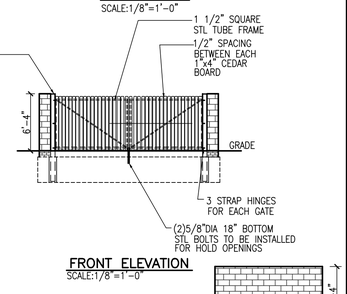
FLOOR PLAN

SCALE:1/8"=1'-0"



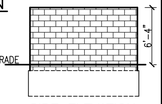
SECTION

SCALE:1/8"=1'-0"



FRONT ELEVATION

SCALE:1/8"=1'-0"



SIDE ELEVATION

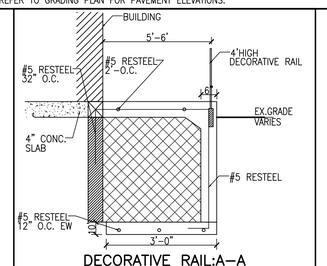
SCALE:1/8"=1'-0"

DUMPSTER DETAIL

SCALE:1/8"=1'-0"

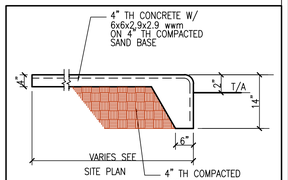
NOTE:

STANDARD CONSTRUCTION TO BE 8"x8"x16" CONCRETE MASONRY UNITS–LAID IN RUNNING BOND WITH ALL JOINTS TOOLED 3/8" ABOVE GRADE. MASONRY TO MATCH BUILDING. SEE PLOT PLAN AND/OR SPECIFICATIONS. REFER TO GRADING PLAN FOR PAVEMENT ELEVATIONS.

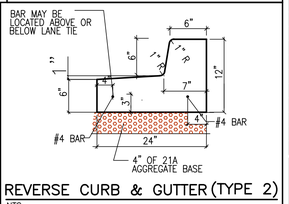


DECORATIVE RAIL:A–A

NTS

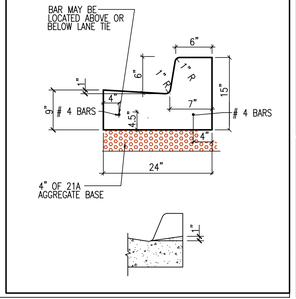


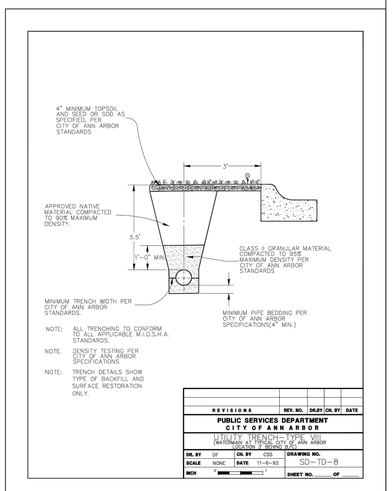
SIDEWALK AT BUILDING N.T.S.



REVERSE CURB & GUTTER (TYPE 2)

NTS



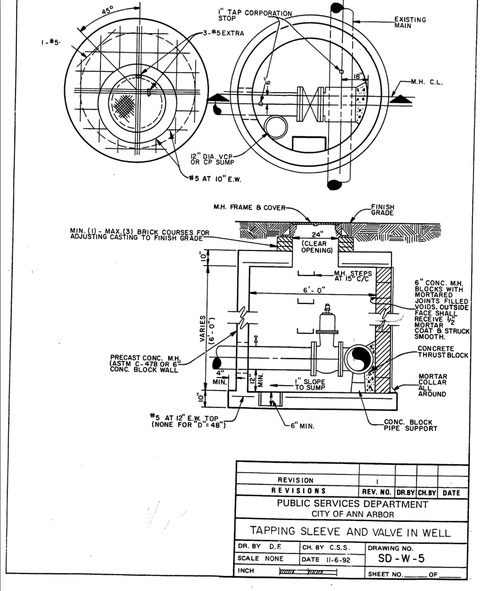


REVISIONS	REV. NO.	DR.BY	CH. BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

UTILITY TRENCH-TYPE VIII
(MATERIALS TO BE APPROVED BY ANN ARBOR
INSPECTOR 2 WEEKS PRIOR)

DR. BY	DF	CH. BY	CSS	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-TD-8
INCH				SHEET NO. ____ OF ____



REVISION	1
REVISIONS	REV. NO. DR.BY CH.BY DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

TAPPING SLEEVE AND VALVE IN WELL

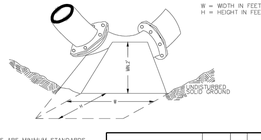
DR. BY	D.F	CH. BY	C.S.S.	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-W-5
INCH				SHEET NO. ____ OF ____

MINIMUM STANDARDS

REACTION BACKING: The Class "A" concrete at the Fitting face shall extend to within (2) inches of the bell and shall extend from the fitting face a minimum of (2) feet to the UNDISTURBED SOLID GROUND. The dimensions of the reaction backing (thrust block) at the face of the undisturbed solid ground shall be as shown in the Table below. If there isn't sufficient space for the installation of the "thrust block" without interference with other services, another arrangement satisfactory to the engineer shall be used, i.e. encasement.

Fittings I.D. Inches	Plug Tee Cross	Bends 90°		45°		22 1/2°		11 1/4°		Hydrant
	W	H	W	H	W	H	W	H	W	H
2.5	1	1	1	1	1	1				
4	1	1	1	1	1	1				
6	2	1.5	2	2	2	1	1	1	2	1.5
8	2.5	2	3.5	2	2	2	1	1	2.5	2
12	3.5	3	5.5	3	3.5	2.5	2	2	1	
16	6	3.5	6	4	5	3	3.5	2.5	2	2
20	8	4	12	4	6	4	4	3	3	2
24	11	4	17	4	9	4	6	4	3.5	2

W = WIDTH IN FEET
H = HEIGHT IN FEET



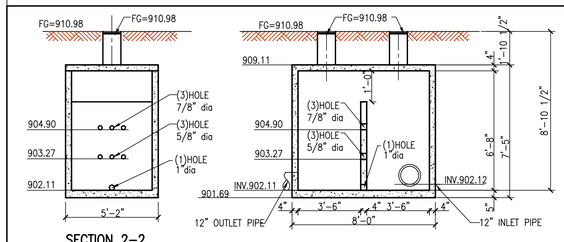
NOTE: THESE ARE MINIMUM STANDARDS. UNDER SOIL CONDITIONS OTHER THAN NORMAL, CORRECTIONS MUST BE MADE BY THE PUBLIC SERVICES DIRECTOR.

REVISIONS	REV. NO.	DR.BY	CH. BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

THRUST BLOCK

DR. BY	D.F.	CH. BY	C.S.S.	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-W-2
INCH				SHEET NO. ____ OF ____

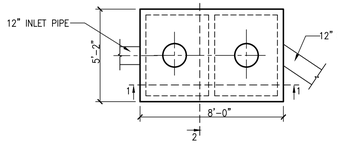


SECTION 2–2

N.T.S.

SECTION 1–1

N.T.S.



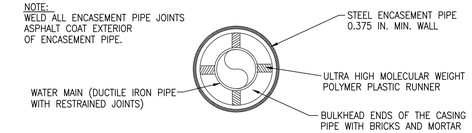
RESTRICTOR

NOT TO SCALE

WHERE REQUIRED UTILITY LINE SHALL BE INSTALLED WITHIN STEEL ENCASEMENT PIPE MEET ASTM A252. THE ENCASEMENT PIPE SHALL BE WELDED STEEL PIPE, AND SHALL BE ASPHALT COATED ON THE OUTSIDE. THE ENCASEMENT PIPE SHALL HAVE A MIN. TENSILE STRENGTH OF 60,000 P.S.I., A MIN. YIELD STRENGTH OF 35,000 P.S.I., AND A MIN. WALL THICKNESS OF 0.375 INCH. THE MIN. DIAMETER ENCASEMENT PIPE SHALL BE THE OUTSIDE DIAMETER OF THE BELL + FOUR(4) INCHES, OR AS DIRECTED BY THE ENGINEER.

THE ENCASEMENT PIPE SHALL BE INSTALLED BY BORING AND JACKING AND IN-SUCH A MANNER SO AS TO ALLOW THE PIPE TO BE LAID AT THE PROPER GRADE. THIS OPERATION SHALL BE CONDUCTED SO AS NOT TO INTERFERE WITH, INTERRUPT OR ENDANGER THE OPERATION OF TRAFFIC NOR DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF THE ROADWAY FACILITIES.

NOTE:
WELD ALL ENCASEMENT PIPE JOINTS ASPHALT COAT EXTERIOR OF ENCASEMENT PIPE.



1) BORING SHALL BE PERFORMED BY ACCEPTED AND RECOGNIZED METHODS WHICH WILL PROVIDE ADEQUATE SAFETY AND PROTECTION AT ALL TIMES TO WORKMEN, INSPECTORS, AND ALL OTHERS INVOLVED IN THE CONSTRUCTION.

2) THE SHEETING OF THE BORING PITS ALONG ANY ROAD WILL BE REQUIRE IF THE LEADIN EDGE OF ALL WORK PITS WILL BE CLOSER TO THE PAVEMENT EDGE THAN THE SHOULDER POINT OR TEN (10) FT., WHICHEVER DISTANCE IS GREATER, OR ON CURB AND GUTTER SECTIONS, AT LEAST FIVE (5) FT. FROM BACK OF CURB.

3) STEEL ENCASING PIPE FOR BORING AND JACKING SHALL CONFORM TO THE REQUIREMENTS OF EITHER ASTM A53, TYPE E OR S, GRADE B OR ASTM A139, GRADE B.

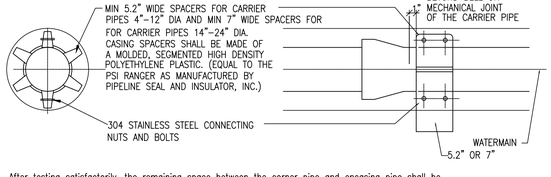
4) THE INSIDE DIA OF CASING PIPE SHALL BE AT LEAST 4" GREATER THAN THE LARGEST OUTSIDE DIA OF THE CARRIER PIPE JOINTS FOR CARRIER PIPE 6" AND OVER IN DIA. THE CASING SHALL HAVE A MIN WALL THICKNESS OF 0.375".

5) CASING PIPE JOINTS SHALL BE WELDED TO FORM A LEAKPROOF CONTINUOUS CASING.

6) EACH CASING SPACER SHALL HAVE AT LEAST SIX INTEGRALLY MOLDED SKIDS.

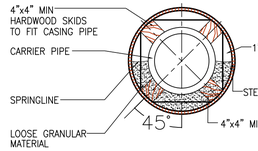
7) THE STEEL CASING PIPE SHALL BE OF SMOOTH INTERIOR AND SHALL BE PLACED ACCURATELY TO LINE AND GRADE, ALLOWING FOR THE ENCASED PIPE THICKNESS AND SUPPORTS UNDER EACH LENGTH OF ENCASED PIPE.

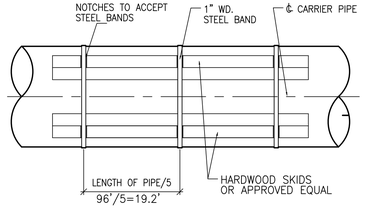
8) THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE AGENCY HAVING JURISDICTION OVER THE LOCATION OF PROPOSED BORING 48 HOURS PRIOR TO BEGINNING BORING.



After testing satisfactorily, the remaining space between the corner pipe and encasing pipe shall be pressure grouted or otherwise filled with concrete. The carrier pipe shall be adequately braced to prevent movement of the pipe.

Casing spacers shall be placed a max. of seven (7) feet apart along the length of the carrier pipe with one casing spacer within 2.5 feet of each side of a pipe joint and the rest evenly spaced.





VOID BETWEEN CASING AND CARRIER PIPE TO BE FILLED WITH LOOSE GRANULAR MATERIAL ONLY TO THE SPRINGLINE OF THE CARRIER PIPE.
THE JOINTS OF THE CASING ARE TO BE FIELD WELDED AROUND THEIR CIRCUMFERENCE BEFORE THE CARRIER PIPE IS PUSHED/PULLED INTO THE CASING.
BULKHEADS SHALL BE PROVIDED AT BOTH ENDS OF THE CASING PIPE.
THE CONTRACTOR SHALL SUBMIT IN WRITING DETAILS OF THE APPROPRIATE PIPE CASING INSTALLATION FOR REVIEW & APPROVAL OF THE ENGINEER BEFORE INSTALLATION OF ANY CASING STARTS.

RCP UNDER HIGHWAY OR STREETS SHALL BE ASTM DESIGNATION C76, CLASS 5.

STEEL CASING PIPE SHALL BE 18"DIA x 0.25" WALL THICKNESS UNCOATED PIPE MEETING THE REQUIREMENTS OF EITHER ASTM A53,(TYPE E OR S, GRADE B) OR ASTM A139 (GRADE B).

BORING DETAIL

NOT TO SCALE

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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
09/28/18
10/01/18
10/23/18
10/30/18
1/8/19
02/08/19
03/25/19
04/25/19
05/29/19
07/08/19
07/19/19

DRAWN BY: K.C./V.L.VR
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: SITE DETAILS

SHEET NO.: C7

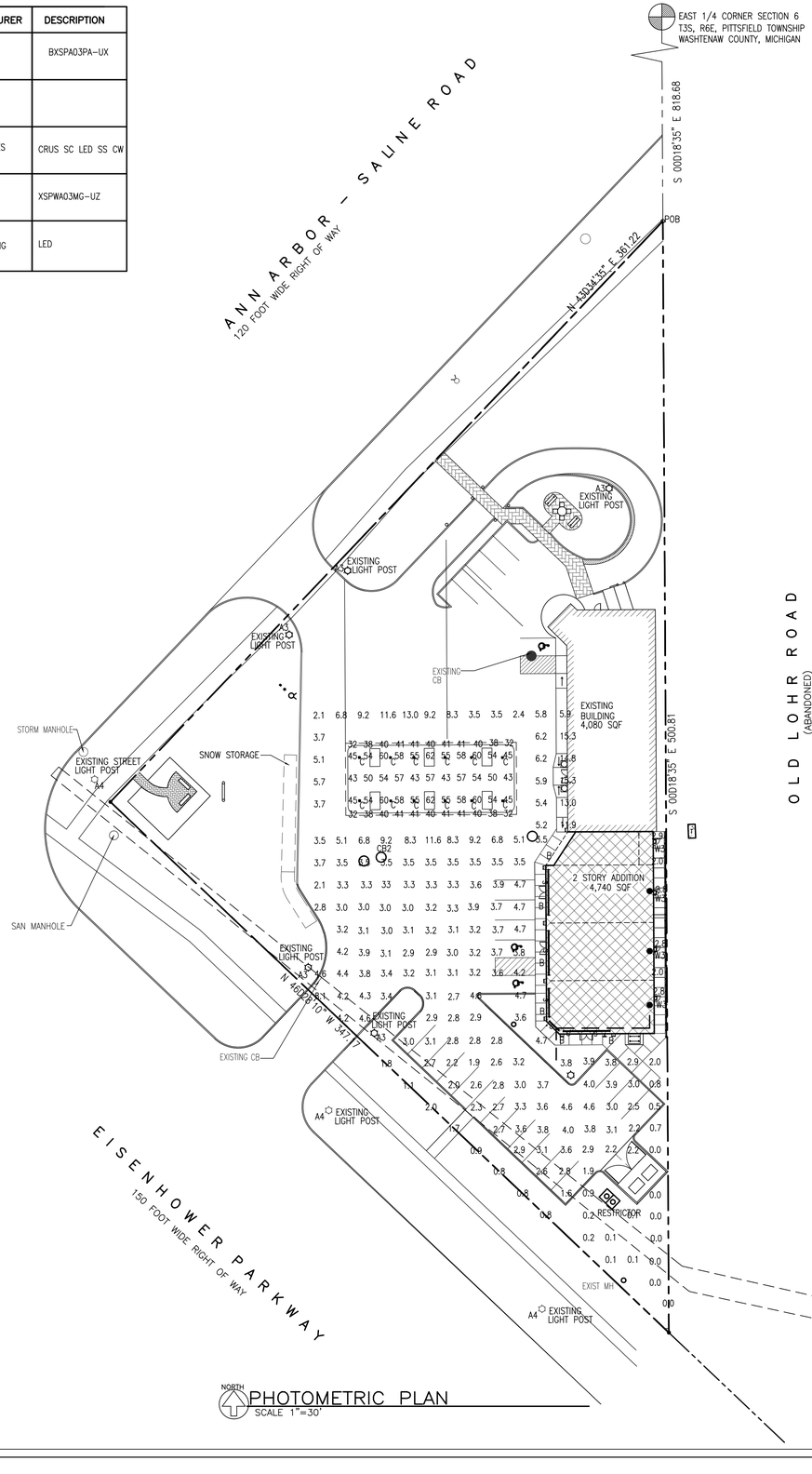
LUMINAIRE SCHEDULE

SYMBOL	QUANITY	LABEL	ARRANGEMENT	LUMENS	LLF	ARR.WATTS	TOTAL WATTS	MANUFACTURER	DESCRIPTION
☼	5	A3–EXISTING LIGHT POST WITHIN PROPERTY	SINGLE	10680	1.050	102	102	CREE,INC.	BXSPA03PA–UX
☼	3	A4–EXISTING LIGHT POST OUTSIDE OF PROPERTY	SINGLE						
□	12	C–EXISTING	SINGLE	21,900	1.050	164	164	LSI, INDUSTRIES	CRUS SC LED SS CW
□	4	W3–PROPOSED	SINGLE	2673	1.040	25.28	50.56	CREE,INC.	XSPWA03MG–UZ
▯	7	B–PROPOSED	SINGLE	5200		6	6	ALCON LIGHTING	LED

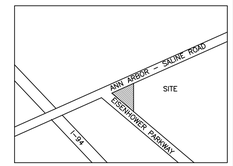
EXISTING LIGHTING

CANOPY LIGHTING

POLE LIGHTING



NORTH
PHOTOMETRIC PLAN
SCALE 1"=30'



NORTH
LOCATION MAP
NTS

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
LICENSED PROFESSIONAL ENGINEER

LEGEND

- PAVED AREA
- NEW ASPHALT
- PROPOSED BUILDING
- GRASS
- PROPOSED SIDEWALK
- LIGHT POST ☼
- PROPOSED STORM ---------S--------S----
- PROPOSED WATER -·-·-W-·-·-
- PROPOSED GAS ---------G------
- PROPOSED SANITARY ------San------
- EXISTING SANITARY ------S------
- EXISTING WATER -·-·-W-·-·-
- EXISTING OH WIRES
- EXISTING GAS -------G-------
- EXISTING STORM ——r——r——
- EXISTING GRADE 741.75
- TOP OF ASPHALT T/A
- TOP OF CURB T/C
- TOP OF GUTTER T/G
- TOP OF WALK T/W
- HYDRANT
- EXISTING PUMP
- PROPOSED GLASS WINDOWS S

72 HOURS
(3 WORKING DAYS)
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE)

ROBERT NOE
ARCHITECTURE
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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
5/31/18		5/06/19
9/19/18		5/21/19
10/02/18	2/28/19	7/08/19
10/24/18	3/1/19	7/11/19
10/30/18	3/05/19	7/15/19
11/08/18	3/12/19	7/19/19
11/09/18	3/22/19	
12/11/18	3/29/19	
1/9/19	4/19/19	
1/25/19	4/24/19	
2/5/19	5/02/19	

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.:
2686

SHEET TITLE:
PHOTOMETRIC PLAN

SHEET NO.:
C8

GENERAL NOTES

SPECIAL CONDITIONS

THE OWNER, GENERAL CONTRACTOR, THE INDIVIDUAL SUBCONTRACTOR AND MATERIAL MAN AGREE TO SAVE THE ARCHITECT HARMLESS, AS A RESULT OF ANY INJURY OR DAMAGE THAT MAY OCCUR TO ANY INDIVIDUAL OR PROPERTY DURING CONSTRUCTION AS A RESULT OF ACTS OR OMISSIONS BY SAID OWNER, CONTRACTORS AND/OR MATERIAL MEN DURING THE PERFORMANCE OF THEIR WORK.

ALL WORK WILL PROCEED IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL SAFETY CODES, STATURES AND RECOGNIZED STANDARDS.

THE GENERAL CONTRACTOR SHALL OBTAIN THE GENERAL BUIDING PERMIT(S), PAY ALL FEES AND ARRANGE FOR ALL INSPECTIONS FOR HIS WORK.

NO MATERIALS OR CONSTRUCTION PROCEDURES SHALL BE UTILIZED ON THIS PROJECT WHICH ARE PROHIBITED BY LAW OR SHALL CAUSE A HARMFUL EFFECT ON THE ENVIRONMENT OR TO ANY PERSON ON THE SITE DURING CONSTRUCTION OR LATER OCCUPANCY.

INSURANCE

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE LIABILITY AND COMPREHENSIVE INSURANCE AND FOR WORK DAMAGED BY IMPROPER WORKMANSHIP. THE OWNER SHALL PURCHASE AND MAINTAIN THE OWNER'S USUAL COVERAGE INSURANCE ON THE WORK WHICH INSURES TO THE OWNER'S BENEFIT. OPTIONALLY THE OWNER MAY PURCHASE AND MAINTAIN OTHER INSURANCE FOR SELF-PROTECTION AGAINST CLAIMS WHICH MAY ARISE FROM OPERATIONS DURING CONSTRUCTION.

FIELD CONDITIONS

THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FIELD CHECKING ALL EXISTING CONDITIONS AND FOR FITTING THEIR WORK TO NEW AND EXISTING WORK. NOTICE MUST BE IMMEDIATELY GIVEN TO THE ARCHITECT WHERE THERE ARE INCONSISTENT OR CONFLICTION DIMENSIONS ON THE DRAWINGS AD FOR WHERE THERE IS A CONFLICT IN THE WORK OF THE INDIVIDUAL TRADES AND/OR CONDITIONS FOUND IN THE FIELD. EACH CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR HIS WORK WHERE HE FAILS TO CHECK SUCH CONDITIONS AND/OR GIVE NOTICE TO THE ARCHITECT OF DISCREPANCIES THEREIN.

IN GENERAL, UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ONLY THOSE TREES WITHIN THE BUIDING AREA SHALL BE REMOVED. ALL OTHERS WILL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PERIOD.

NOTE:

1. PLANTS SHALL BE NURSERY GROWN, FREE OF DESEASE AND SIZES CONFORM TO AMERICAN NURSERYMAN STANDARDS.
2. THE OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING IN GOOD CONDITION TO PRESENT A HEALTHY, NEAT, AND ORDERLY APPEARANCE THIS SHOULD BE ACCOMPLISHED BY THE FOLLOWING STANDARDS:
   a. ALL PLANT GROWTH IN LANDSCAPED AREAS SHALL BE CONTROLLED BY PRUNING, TRIMMING, OR OTHER SUITABLE METHODS SO THAT PLANT MATERIALS DO NOT INTERFERE WITH PUBLIC UTILITIES, RESTRICT PEDESTRIAN OR VEHICULAR ACCESS, OR OTHERWISE CONSTITUTE A TRAFFIC HAZARD.
   b. ALL PLANTED AREAS SHALL BE MAINTAINED IN A RELATIVELY WEED-FREE CONDITION, CLEAR OF UNDESIRABLE UNDERGROWTH
   c. REPLACEMENT PLANTS SHALL CONFORM TO THE STANDARDS THAT GOVERN ORIGINAL INSTALLATION.
3. UNDERGROUND IRRIGATION SYSTEM TO BE INSTALLED ADEQUATE TO MAINTAIN LANDSCAPE AREAS
4. ALL APPLICATIONS OF FERTILIZER BEYOND INITIAL TOPSOIL AND SEEDING SHALL BE FERTILIZED WITH NO PHOSPHORUS.
5. ALL DISEASED, DAMAGED, OR DEAD MATERIAL SHOWN ON THE SITE PLAN SHALL OF THIS SECTION PER CHAPTER, ARTICLE V 5.29.6.L.
6. ALL REMOVED INVASIVE SPECIES (TREE OF HEAVEN) TO BE CUT AND TREATED.
7. ALL DEAD TREES TO BE REPLACED TO MATCH EXISTING
8. EXISTING IRRIGATION SYSTEM TO BE MODIFIED IN ORDER TO SERVICE NEW LANDSCAPE AREAS.

LANDSCAPE NOTES: CHAPTER 55 SECTION 5:20:

- SPECIFICATION FOR TREATMENT OF COMPACTED SOIL ON THE ENTIRE SITE.
  –USE OF A AERATOR OVER COMPACTED SOIL AREAS SHALL BE UTILIZED TO LOOSEN SOIL FOR NEW GRASS & VEGETATION.
- SPECIFICATIONS FOR PLANTING MEDIA LANDSCAPED AREAS. ADDITIONAL SOIL SHALL BE FILTERED TOPSOIL, MULCH SHALL BE HARDWOOD, NON DYED FREE OF DEBRIS.
  –IDENTIFICATION OF SNOW STORAGE AREAS INCLUDING A STATEMENT THAT SNOW SHALL NOT BE PUSHED ONTO LANDSCAPE ISLANDS. (UNLESS DESIGNED FOR SNOW STORAGE).

GROWING MEDIUM:

AS MUCH AS POSSIBLE EXISTING SOIL SHALL BE STOCKPILED AND REUSED FOR THE GROWING MEDIUM. (FROM EX. LANDSCAPE AREAS ONLY)
IF SITE NEEDS ADDITIONAL SOIL
FILTERED TOP SOIL/SAND/SMALL STONE MIXTURE SHALL BE USED.
NEW SOIL IF REQUIRED SHALL BE MIXED WITH EXISTING SOIL

LEGAL DESCRIPTION

PART OF THE SOUTHEAST 1/4 OF SECTION 6, T3S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE EAST 1/4 CORNER OF SAID SECTION 6;
THENCE S 00°18'35"E 818.93 FEET ALONG THE EAST LINE OF SAID SECTION TO A POINT ON THE SIOUTHERLY LINE OF ANN ARBOR–SALINE ROAD FOR A PLACE OF BEGINNING;
THENCE CONTINUING S 00°18'35"E 500.81 FEET ALONG SAID EAST LINE AND THE CENTER LINE VACATED LOHR ROAD TO A POINT ON THE NORTHERLY LINE OF EISENHOWER PARKWAY; THENCE N 46°28'10"W 347.17 FEET ALONG THE NORTHERLY LINE OF SAID EISENHOWER PARKWAY TO THE INTERSECTION WITH SAID SOUTHERLY LINE OF ANN ARBOR–SALINE ROAD; THENCE N 43°34'35"E 361.22 FEET ALONG SAID SOUTHERLY LINE TO THE PLACE OF BEGINNING.
CONTAINING 1.44 ACRES OF LAND, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

CITY STANDARDS

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS."

BIO–RETENTION LANDSCAPE ISLANDS

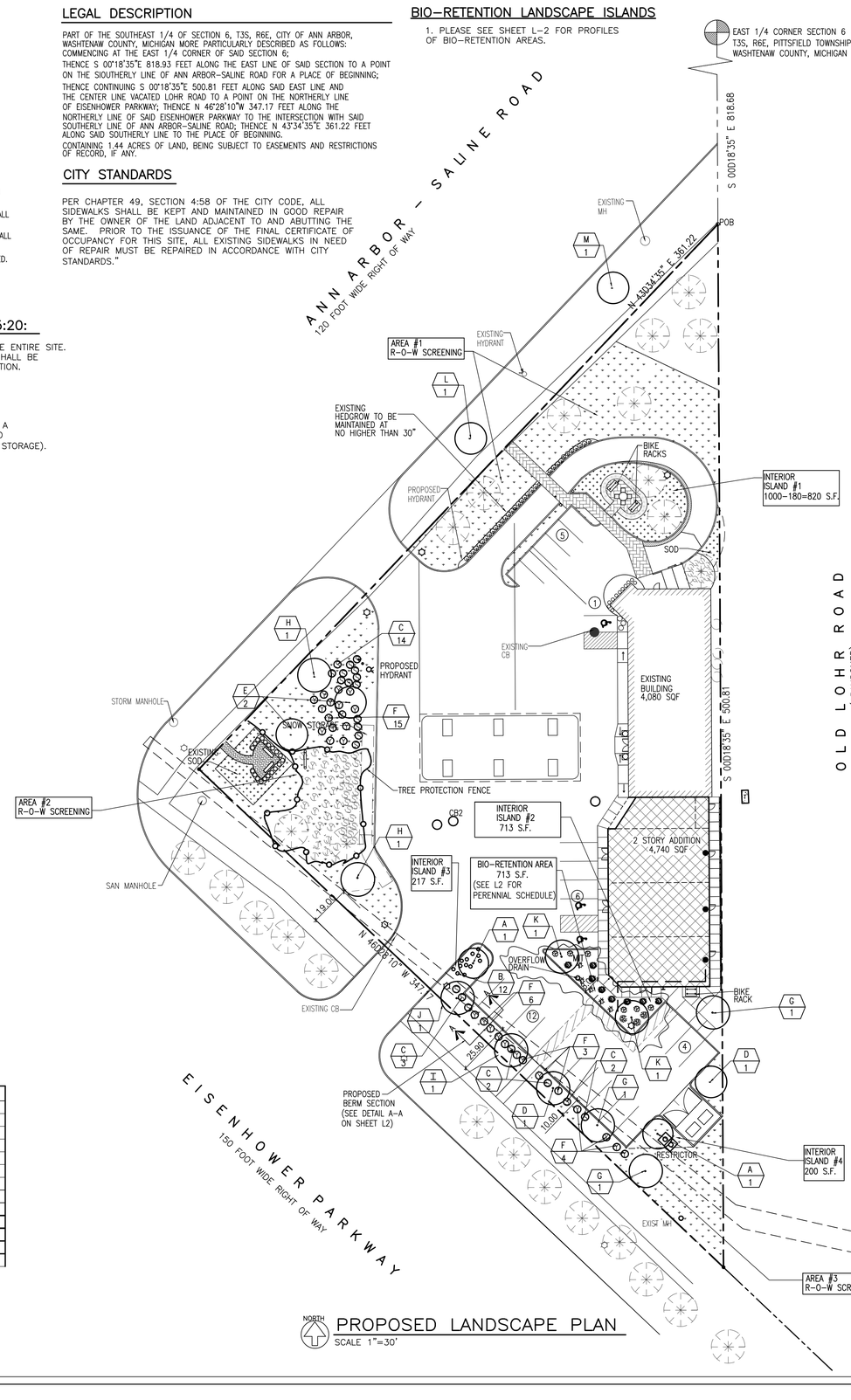
1. PLEASE SEE SHEET L–2 FOR PROFILES OF BIO–RETENTION AREAS.

LANDSCAPE REQUIREMENTS (REFERENCE CHART BELOW)

LANDSCAPING & SCREENING REQUIREMENTS	REQUIRED	EXISTING	PROPOSED
ROW SCREENING (ROW)			
SIZE OF ROW BUFFER STRIP (MIN 10 FEET)	10' MIN	10' MIN	10' MIN
			SCREENING CALCULATION BREAK–DOWN
			AREA(S) / EXISTING / REMOVING / REMAINING / REPLACING / REQUIRED
NUMBER OF ROW SCREENING TREES (1 TREE FOR EVERY 30' OR FRACTION THEREOF OF PUBLIC ROW STREET FRONTAGE OF THE VEHICULAR USE ARE)	AREA #1: 110LF/30 = 4 TREES	4 TREES	AREA #1: 4 TREES / 0 TREES / 4 / 0 TREES / 4 TREES
	AREA #2: 160LF/30 = 6 TREES	7 TREES	AREA #2: 7 TREES / 5 TREES / 2 / 4 TREES / 6 TREES
	AREA #3: 150LF/30 = 5 TREES	6 TREES	AREA #3: 6 TREES / 6 TREES / 0 / 5 TREES / 5 TREES
	TOTAL = 15 TREES	TOTAL= 17 TREES	TOTAL(S) =17 TREES / =11 TREES / =6 TREES / =9 TREES / =15 TREES
HEDGE, SHRUBS, BERM AND/OR WALL PROVIDED IN ROW BUFFER STRIP	SHRUBS	SHRUBS	BERM
IF SHRUBS USED, NUMBER OF SHRUBS PROVIDED (1 SHRUB FOR EVERY 4 LINEAR FEET)	71	96	88
VEHICULAR USE AREA (VUA)			
VUA SIZE (SQF)		27,544 SQF	28,105 SQF
SQUARE FEET OF INTERIOR LANDSCAPE ISLANDS REQUIRED	28,105/20= 1,405 SQF	1,378 SQF	820+200+217+713 =1,950 SQF
SQUARE FEET OF DEPRESSED BIORETENTION INTERIOR LANDSCAPE ISLANDS (AT LEAST 50% OF THE AREA IN THE INTERIOR LANDSCAPE AREA MUST BE DEPRESSED IF IS AREA EXCEEDS 750 S.F.)	1405/2= 702.5 SQF 702.5 SQF	NONE	713 SQF
NUMBER OF INTERIOR LANDSCAPE ISLANDS TREES	1,405/250 = 5.62	6 TREES	6 TREES
STREET TREE REQUIREMENT	1 DECIDUOUS FOR EVERY 45 LF. (12' FROM THE EDGE OF CURB) 708.39 LF/45 = 15 TREES	13 TREES	15 TREES

PROPOSED SCHEDULE OF PLANTS

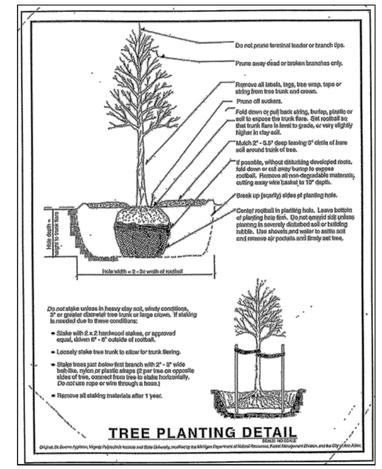
ITEM	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
A	2	BLACK GUM	NYSSA SYLVATICA	2.5" CAL.	B&B	PROPOSED DECIDIOUS: INTERIOR ISLAND #3 & #4
B	12	RED SPRITE HOLLY	ILEX VERTICILLATA 'NANA'	2.5' HT	POT	PROPOSED DECIDIOUS SHRUB: INTERIOR LANDSCAPE #3
C	21	SPIREA	SPIRAEA PRUMIFOLIA	2.5" HT	POT	PROPOSED DECIDIOUS SHRUB: R–O–W SCREEN
D	2	SUGAR MAPLE	ACER SACCHARUM	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: R–O–W SCREEN
E	2	SWEET GUM	LIQUIDAMBAR STYRACIFLUA	2.5" CAL	B&B	PROPOSED DECIDIOUS TREE: R–O–W SCREEN
F	28	YEWS	TAXACEAE DENSISORMIS	2.5" HT	POT	PROPOSED EVERGREEN SHRUB: BUFFER STRIP
G	3	WHITE SPRUCE	PICEA GLAUCA	2.5" CAL.	B&B	PROPOSED EVERGREEN TREE: R–O–W SCRREN
H	2	LINDEN	TILIA GENUS	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: R–O–W SCREEN
I	1	CRAB APPLE	MALUS	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: R–O–W SCREEN
J	1	EASTERN WHITE PINE	PINUS STROBUS	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: R–O–W SCREEN
K	2	BLACK GUM (SOURGUM)	NYSSA SYLVATICA	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: VEHICULAR USE AREA TREE
L	1	NORTHERN RED OAK	QUERCUS RUBRA	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: STREET TREE
M	1	EASTERN REDBUD	CERCIS CANADENSIS	2.5" CAL.	B&B	PROPOSED DECIDIOUS TREE: STREET TREE

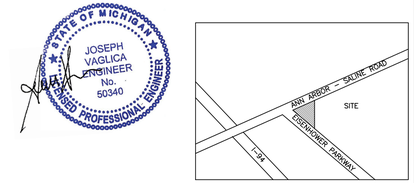


NORTH
PROPOSED LANDSCAPE PLAN
SCALE 1"=30'

LEGEND

- OVERFLOW DRAIN
- PROPERTY LINE
- BIKE RACK
- HANDICAP
- HYDRANT
- STRUCTURE
- LIGHT POST
- PAVED AREA
- NEW ASPHALT
- PROPOSED BUILDING
- SOD
- GRASS
- EXISTING TREE(NOT BEING REMOVED)
- PERENNIALS FOR BIORETENTION
- PROPOSED TREES
- MIT — PROPOSED MITIGATION TREES
- TREE PROTECTION FENCE





NORTH
LOCATION MAP
NTS

STATE OF MICHIGAN
JOSEPH VAGLICA
ENGINEER
No. 50340
LICENSED PROFESSIONAL ENGINEER

ROBERT NOE
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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE		
5/31/18		5/06/19
9/19/18		5/21/19
10/02/18	2/28/19	7/08/19
10/24/18	3/1/19	7/11/19
10/30/18	3/05/19	7/15/19
11/08/18	3/12/19	7/25/19
11/09/18	3/22/19	
12/11/18	3/29/19	
1/9/19	4/19/19	
1/25/19	4/24/19	
2/5/19	5/02/19	

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

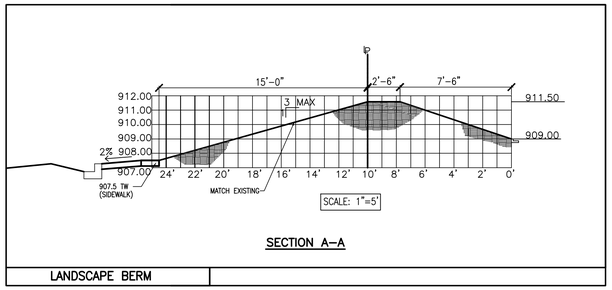
ARCHITECTURAL SEAL:

PROJECT NO.: 2686

SHEET TITLE: PROPOSED LANDSCAPE PLAN

SHEET NO.: L1

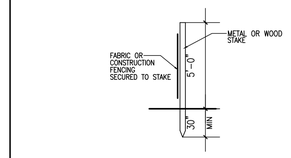
72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG 1–800–482–7171 (TOLL FREE)



SECTION A–A

LANDSCAPE BERM

SITE ASSEMBLIES DETAILS — SAD



SECTION
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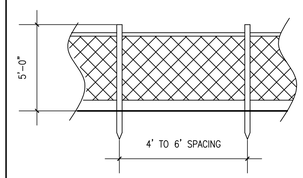
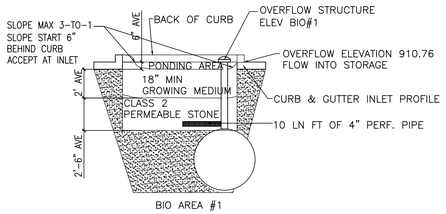


ELEVATION
nts

TEMPORARY TREE PROTECTION FENCING

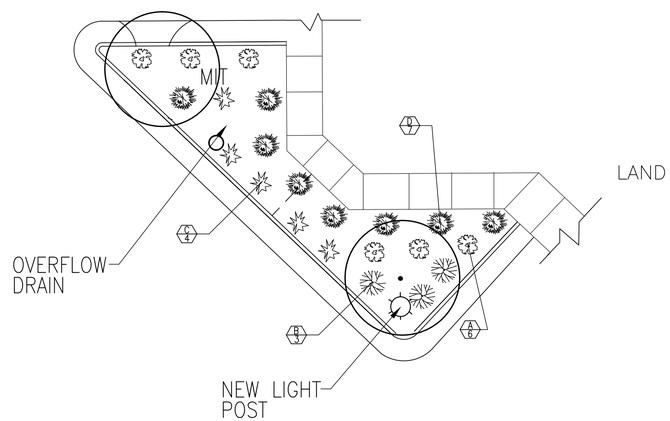
TREE PROTECTION NOTES:
1. TREE PROTECTION FENCE SHALL BE PLACED AT THE EDGE OF THE CRITICAL ROOT ZONE OF ALL PROTECTED TREES ON SIDE OF WORK TO BE DONE & 6'-0" TALL. EXCEPT WHERE UNAVAILABLE WITH EXISTING SIDEWALKS AND WALLS.



BIO AREA #1

BIORETENTION PROFILES AA

SCALE: 1" = 10'-0"



SCHEDULE OF PERENNIALS BIO–RETENTION

ITEM	QTY	COMMON NAME	BOTANICAL NAME	SYM	SIZE	HT FT	ROOT	REMARKS
A	6	BLACK EYED SUSAN	RUDBECKIA HIRTA		1 GAL	1-3	POT	D,W,ST,
B	3	FALSE DRAGON HEAD	PHYSOSTEGIA VIRGINIANA		1 GAL	1-5	POT	M,W,ST,
C	4	HOARY VERVAIN	VERBENA STRICTA		1 GAL	3-3.5	POT	D,M,ST,DR
D	7	GOLDEN ALEXANDERS	ZIZIA AUREA		1 GAL	1-3	POT	M,W,DR,ST

D=DRY, M = MOIST, W= WET
ST= SALT TOLERANT
DR= DROUT TOLERANT

RAIN GARDEN MAINTENANCE:

PROPERLY DESIGNED AND INSTALLED RAIN GARDEN SYSTEMS REQUIRE REGULAR MAINTENANCE.

A. WHILE VEGETATION IS BEING ESTABLISHED, HAND WEEDING OR OTHER WEED CONTROL METHODS WILL BE REQUIRED. THEREAFTER, TWICE ANNUAL WEEDING IS TYPICAL. INVASIVE PLANTS SHOULD BE CONTROLLED EARLY IN THEIR ESTABLISHMENT BEFORE THEY SPREAD.

B. FALL AND SPRING CLEANUP MUST BE PERFORMED INCLUDING CUTTING DOWN DEAD PERENNIALS, REMOVAL OF WEEDS AND REMOVAL OR MULCHING OF LEAVES AND STEMS.

C. MULCH MUST BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED ANNUALLY. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.

D. RAIN GARDEN SYSTEMS MUST BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITIONS,ETC. SEDIMENT MUST BE REMOVED FROM FOREBAY AND RIPRAP/STONE PROTECTED AREAS AT LEAST TWICE PER YEAR. SEDIMENT SHOULD BE REMOVED BEFORE ITS ACCUMULATION NEGATIVELY IMPACTS THE PERFORMANCE OF THE PRETREATMENT DEVICE.

E. DURING PERIODS OF EXTREME DROUGHT, RAIN GARDEN SYSTEMS MAY REQUIRE WATERING.

F. RAIN GARDEN SYSTEMS CAN BE MOWED TWICE PER YEAR.

G. TREES AND SHRUBS MUST BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.

H INVASIVE SPECIES MUST BE REMOVED ON AN ANNUAL BASIS AND DISPOSED OF IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. INVASIVE SPECIES CAN BE TREATED CHEMICALLY BY A CERTIFIED APPLICATOR.

STATE OF MICHIGAN
JOSEPH VAGLICA
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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
04/24/19
05/03/19
05/06/19
05/21/19
REV 11-07/18/19

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

PROJECT NO.:
2686

SHEET TITLE:
BIO–RETENTION AREAS

SHEET NO.:
L2

WALL LEGEND

NEW DROP WALL 3⅝" MTL STUD WITH DRYWALL (1) LAYER 1 SIDE	W1
NEW INTERIOR WALL 3⅝" MTL STUD W (1) LAYER ⅝" DRYWALL BOTH SIDES	W2
EXISTING WALL WITH DOOR FILLED IN AND NEW (1) LAYER ⅝" DRYWALL BOTH SIDES.	W3
EXISTING EXTERIOR WALL: 6"MTL STUD WITH SIDING	W4
EXISTING EXTERIOR WALL: 8" MASONRY BLOCK GROUTED SOLID AT OPENINGS. WITH NEW BRICK VENEER	W5

WALL LEGEND

- NEW METAL STUD WALLS
- NEW BRICK VENEER WALLS

GENERAL FLOOR FINISH NOTES

1. SEE ELEVATIONS FOR EXACT FINISH LOCATIONS.
2. NEW CONCRETE FLOORS: 1/2" SLOPE TO ALL
3. G.C. TO PROVIDE STRESS-CRACK SUPPRESSION FOR ALL TILE SURFACES.

GENERAL NOTES

1. FIELD VERIFY BASE BUILDING DIMENSIONS AND DOOR LOCATIONS. REPORT DISCREPANCIES TO ARCHITECT PRIOR TO BEGINNING OF INTERIOR CONSTRUCTION.
2. HEIGHT OF WALLS ARE MEASURED FROM FLOOR SLAB.
3. CONTRACTOR SHALL PROVIDE CONSTRUCTION BARRACADE/VISUAL SCREENS IN ACCORDANCE W/OWNER & O.H.S.A. REQUIREMENTS.
4. ALL SAFETY GLASS (TEMPERED, LAMINATED, ETC.) SHALL BE PERMANENTLY LABELED TO INDICATE THE TYPE OF GLASS AND THE SAFETY GLASS STANDARD TO WHICH IT COMPLIES.
5. G.C. TO WORK WITH FIRE MARSHALL TO LOCATE PORTABLE FIRE EXTINGUISHERS, SIZE & TYPE. EXTINGUISHERS SHALL BE INSTALLED WITH SECTION 906.1 OF THE 2009 INTERNATIONAL FIRE CODE.

ALL CABINETS, COUNTERS, BARS & RESTROOM VANITIES SHALL BE SMOOTH, DURABLE, & EASILY CLEANABLE. ALL CRACKS WILL BE CAULKED AND BAR WOOD SEALED AND/OR PAINTED.
WALL MOUNTED EQUIPMENT SUCH AS SHELVES, SINKS, COUNTERS, VANITIES, URINALS, COAT RACKS, MOP PACKS, WALL FAN MOUNTS AND HOSE REELS SHALL BE SEALED IN PLACE. GAPS BETWEEN DOOR/WINDOW FRAMES/ MOLDING AND WALLS/FLOORS SHALL BE SEALED

DOOR HARDWARE

HARDWARE TYPE 1:
(STORE FRONT)

(1) CLOSER/STOP

(1) EXIT DEVICE; ADAMS RITE #8400 MORTISE PANIC DEVICE (BY. G.C.) OR EQUAL

NO PULL

(1) ADA APPROVED ALUM. THRESHOLD. WEATHER STRIPPING & SWEEP

HARDWARE TYPE 2:
(STORAGE)

PR) BUTT HINGES:
HAGER BB 1 279 $4\frac{1}{2}$"x$4\frac{1}{2}$" 626

(1) KWIKSET LIDA SMARTKEY VENETIAN BRONZE UNIVERSAL KEYED DOOR LEVER

(1) KICKDOWN HOLDOPEN

(1) KICK PLATE 32"x8"x.05"; 626

(1) CLOSER; LCN 4041 SERIES

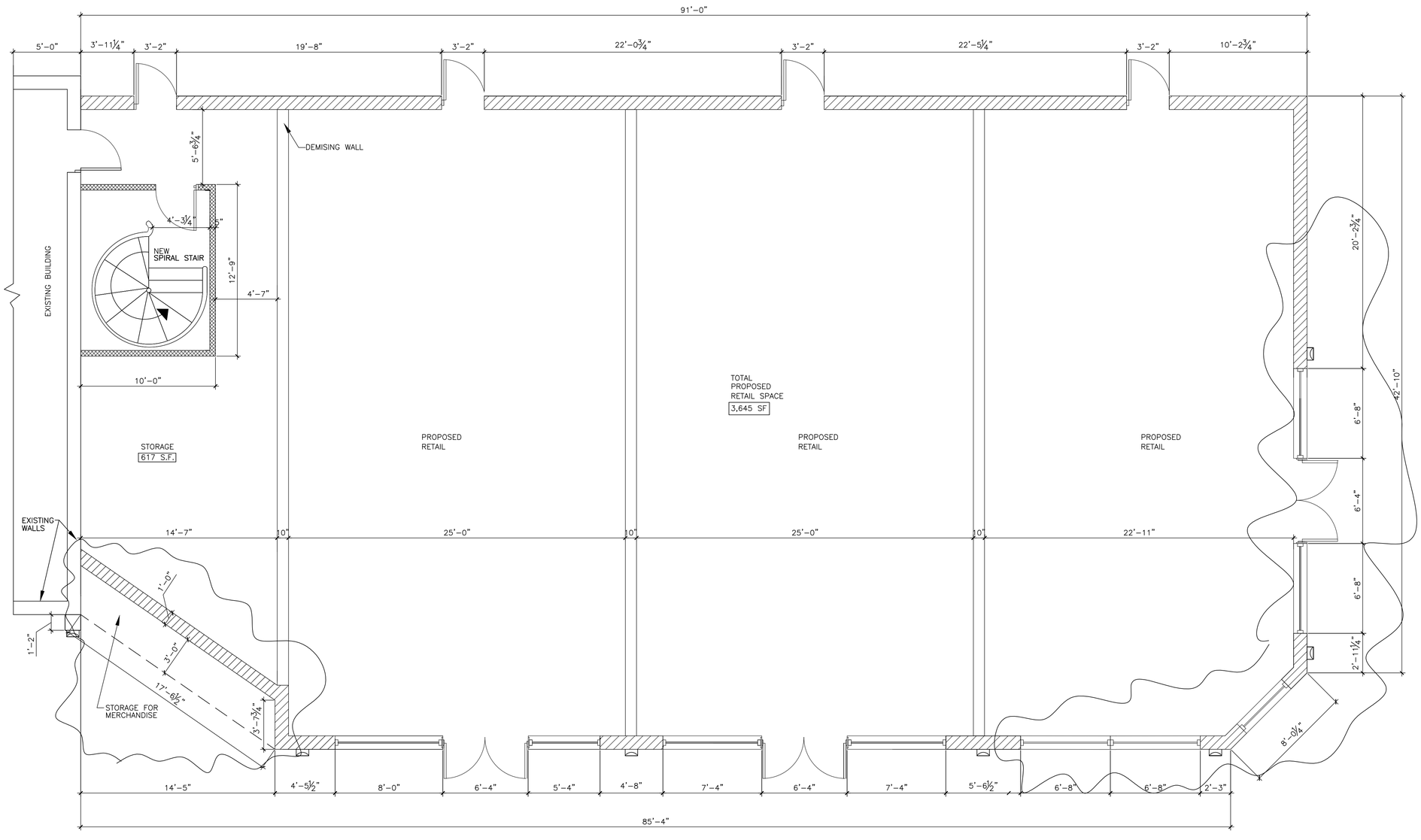
HARDWARE TYPE 3:
(RESTROOM)

(1) CLOSER; LCN 4041 SERIES DUROMONIC

(1) KICK PLATE 32"X8"X0.5" 626

(2) WALL STOP; QUALITY 308 IVORY

(1) OFFSET SWING PIVOT HINGE 120°



NORTH

FIRST FLOOR PLAN
SCALE: 1/4"-1'-0"

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DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

STATE OF MICHIGAN
ROBERT J. NOE
ARCHITECT
No. 25996
LICENSED ARCHITECT

PROJECT NO.: 2686

SHEET TITLE: FIRST FLOOR FLOOR PLAN

SHEET NO.: A1

WALL LEGEND

- NEW METAL STUD WALLS
- NEW BRICK VENEER WALLS

GENERAL FLOOR FINISH NOTES

1. SEE ELEVATIONS FOR EXACT FINISH LOCATIONS.
2. NEW CONCRETE FLOORS: 1/2" SLOPE TO ALL
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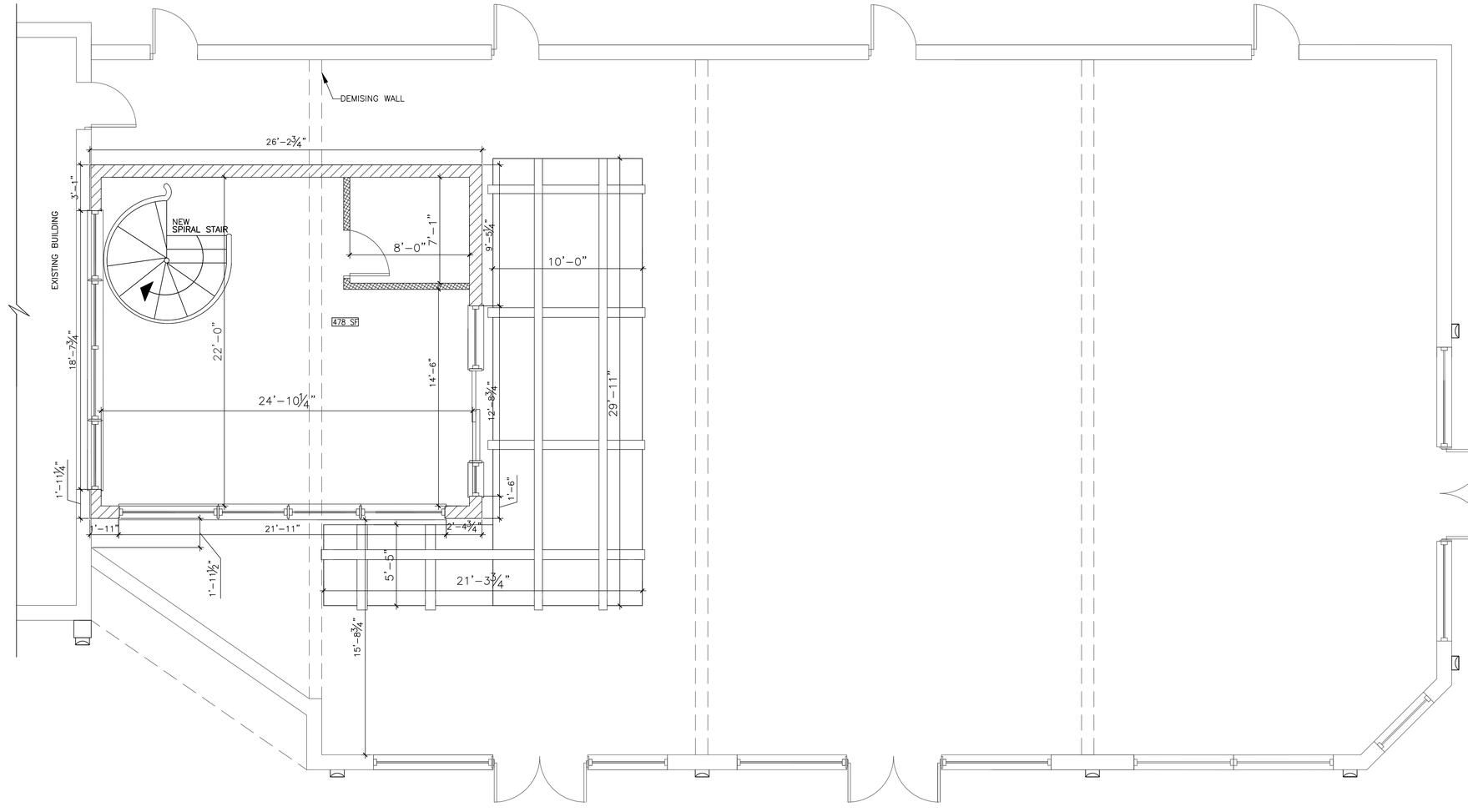

NORTH

SECOND FLOOR PLAN
SCALE 1/4"=1'

WALL LEGEND

	NEW DROP WALL 3⅝" MTL STUD WITH DRYWALL (1) LAYER 1 SIDE	W1
	NEW INTERIOR WALL 3⅝" MTL STUD W (1) LAYER ⅝" DRYWALL BOTH SIDES	W2
	EXISTING WALL WITH DOOR FILLED IN AND NEW (1) LAYER ⅝" DRYWALL BOTH SIDES.	W3
	EXISTING EXTERIOR WALL: 6"MTL STUD WITH SIDING	W4
	EXISTING EXTERIOR WALL: 8" MASONRY BLOCK GROUTED SOLID AT OPENINGS. WITH NEW BRICK VENEER	W5

DOOR HARDWARE

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(STORE FRONT)

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(1) EXIT DEVICE; ADAMS RITE #8400 MORTISE PANIC DEVICE (BY. G.C.) OR EQUAL

NO PULL

(1) ADA APPROVED ALUM. THRESHOLD.
WEATHER STRIPPING & SWEEP

HARDWARE TYPE 2:
(STORAGE)

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HAGER BB 1 279 $4\frac{1}{2}$"x$4\frac{1}{2}$" 626

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(1) KICKDOWN HOLDOPEN

(1) KICK PLATE 32"x8"x.05"; 626

(1) CLOSER; LCN 4041 SERIES

HARDWARE TYPE 3:
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(1) KICK PLATE 32"X8"X0.5" 626

(2) WALL STOP; QUALITY 308 IVORY

(1) OFFSET SWING PIVOT HINGE 120°

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ARCHITECTURAL SEAL:

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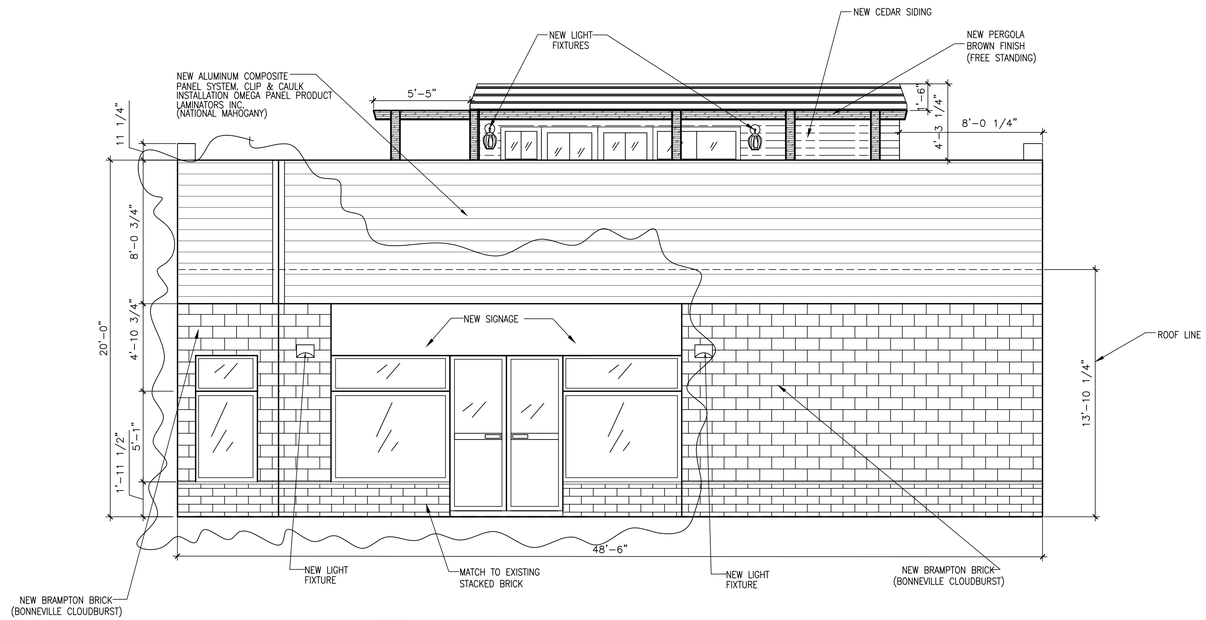
No. 25998
LICENSED ARCHITECT

PROJECT NO.: 2686

SHEET TITLE: SECOND FLOOR PLAN

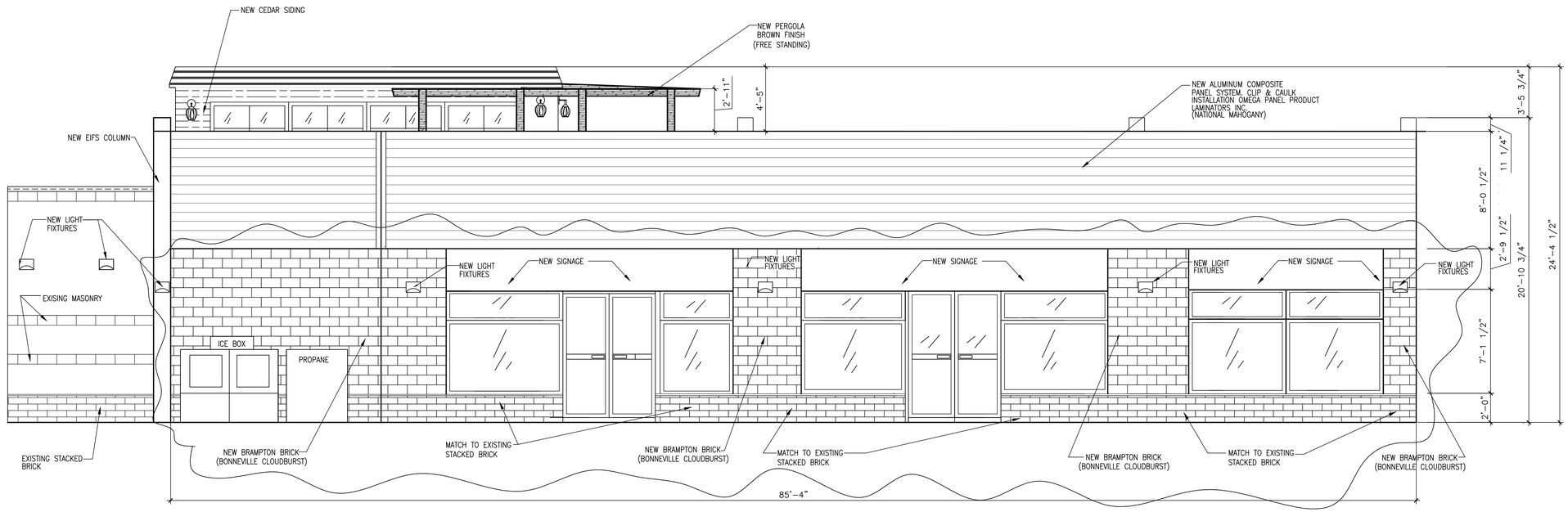
SHEET NO.: A2



NORTH

EXTERIOR ELEVATION

SCALE 1/4"=1'



WEST

EXTERIOR ELEVATION

SCALE 1/4"=1'

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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
11-13-18
4-8-19
7-03-19
7-15-19
7-19-19

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

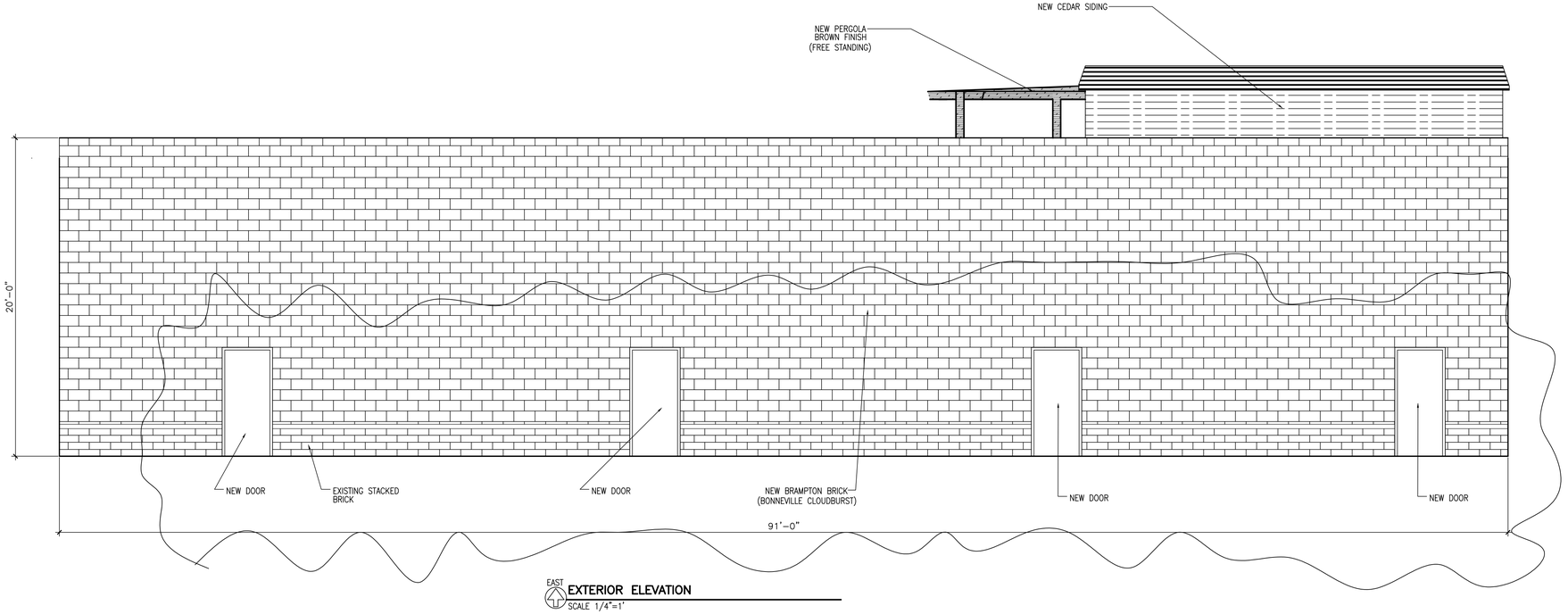
ARCHITECTURAL SEAL:

STATE OF MICHIGAN
ROBERT J. NOE
ARCHITECT
No. 22998
LICENSED ARCHITECT

PROJECT NO.:
2686

SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NO.:
A3



EAST **EXTERIOR ELEVATION**
SCALE 1/4"=1'

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SHELL GAS STATION

2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
11-13-18
4-8-19
7-03-19
7-19-19

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

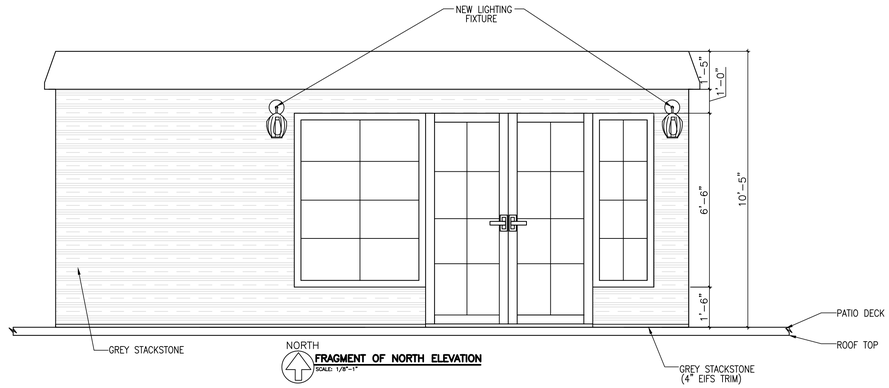
ARCHITECTURAL SEAL:

STATE OF MICHIGAN
ROBERT J. NOE
ARCHITECT
No. 25998
LICENSED ARCHITECT

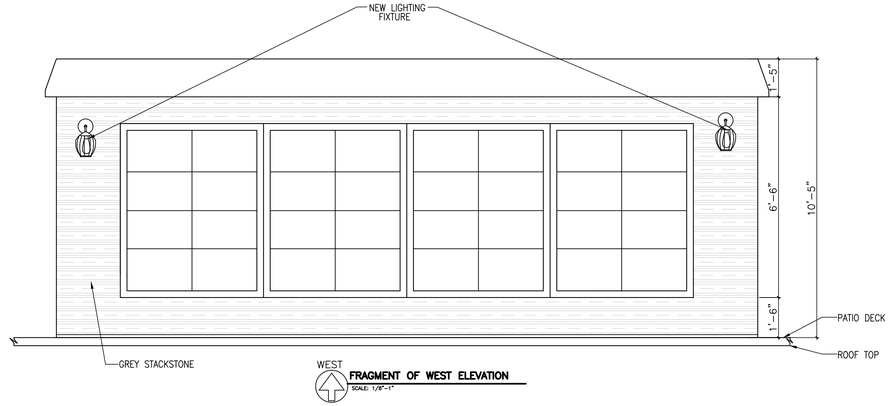
PROJECT NO.:
2686

SHEET TITLE:
EXTERIOR ELEVATION

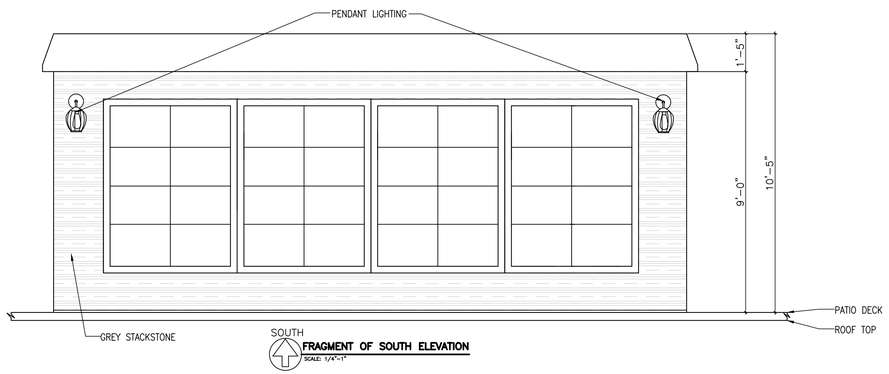
SHEET NO.:
A4



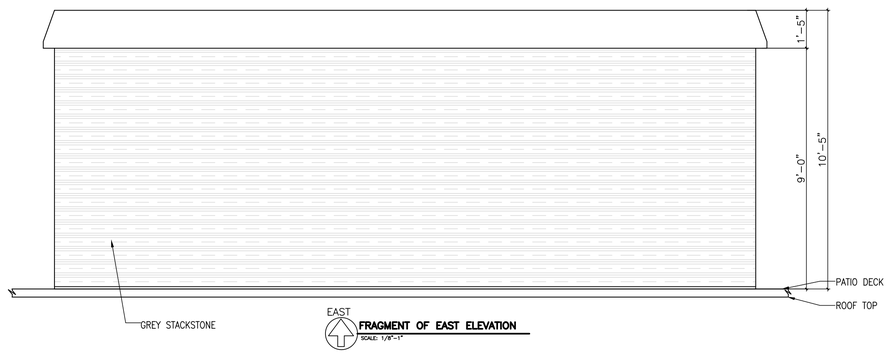
NORTH
FRAGMENT OF NORTH ELEVATION
SCALE: 1/8"=1"



WEST
FRAGMENT OF WEST ELEVATION
SCALE: 1/8"=1"



SOUTH
FRAGMENT OF SOUTH ELEVATION
SCALE: 1/4"=1"



EAST
FRAGMENT OF EAST ELEVATION
SCALE: 1/8"=1"

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SHELL GAS STATION
2679 ANN ARBOR SALINE RD
ANN ARBOR MI

ISSUE DATE
05/22/18-PRELIMINARY
04/08/19

DRAWN BY: K.C./V.L.
CHECKED BY: T.Q.
APPROVED BY: T.Q.

ARCHITECTURAL SEAL:

STATE OF MICHIGAN
ROBERT J. NOE
ARCHITECT
No. 25998
LICENSED ARCHITECT

PROJECT NO.:
2686

SHEET TITLE:
FRAGMENT ELEVATIONS

SHEET NO.:
A5

Looking south towards Eisenhower Blvd.

Looking north toward AA-Saline Road