QUANTITY CHART

ITEM	QUANITY	UNIT
SILT FENCE	1989	LF
INLET FILTER	21	EA
MUD MAT	1200	SF

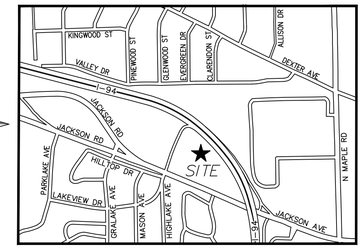
SITE DATA

DISTANCE TO NEAREST STREAM / DRAIN:	585' TO WEST PARK-FAIRGROUNDS DRAIN
SOIL TYPES:	WawabB-WAWASEE LOAM, 2 TO 6 PERCENT SLOPES WawabD-WAWASEE LOAM, 12 TO 18 PERCENT SLOPES
TEMPORARY SOIL EROSION MEASURES:	SILT FENCES INLET FILTERS
PERMANENT SOIL EROSION MEASURES:	TOPSOIL, SEED & MULCH

MAINTENANCE SCHEDULE

THE CONTRACTOR SHALL INSPECT SESC MEASURES WEEKLY UNDER NORMAL CONDITIONS, WITHIN 24 HOURS OF EACH RAIN EVENT, AND DAILY DURING A PROLONGED RAIN EVENT BY DESIGNATED CONTRACTOR.

MEASURE	MAINTENANCE SCHEDULE
SILT FENCE	INSTALL AT THE START OF CONSTRUCTION PER PLAN. REMOVE ACCUMULATED SEDIMENTS WHEN DEPTH REACHES ⅓ TO ½ THE HEIGHT OF THE FENCE. FABRIC SHALL BE REPLACED IF DAMAGED.
INLET FILTER	INSTALL AT THE START OF CONSTRUCTION PER PLAN. REMOVE ACCUMULATED SEDIMENTS. FILTER SHALL BE REPLACED IF DAMAGED.
DUST CONTROL	WATER SHALL BE APPLIED TO EXPOSED AREAS BY THE CONTRACTOR IN THE EVENT OF EXCESSIVE AIRBORNE DUST. DUST CONTROL SHALL BE APPLIED AS DIRECTED BY THE ENGINEER OR CITY PERSONNEL.
VEGETATION (PERM)	SEED SHALL BE WATERED AND MULCH MAINTAINED UNTIL VIGOROUS TURF HAS BEEN ESTABLISHED.
MUD MAT	INSTALL AT THE START OF CONSTRUCTION PER PLAN. REMOVE ACCUMULATED SEDIMENTS, ADD STONE AS NEEDED AND REQUIRED BY THE ENGINEER, AND REPLACE GEOTEXTILE IF DAMAGED.



LOCATION MAP
(NOT TO SCALE)

SOIL EROSION COST ESTIMATE

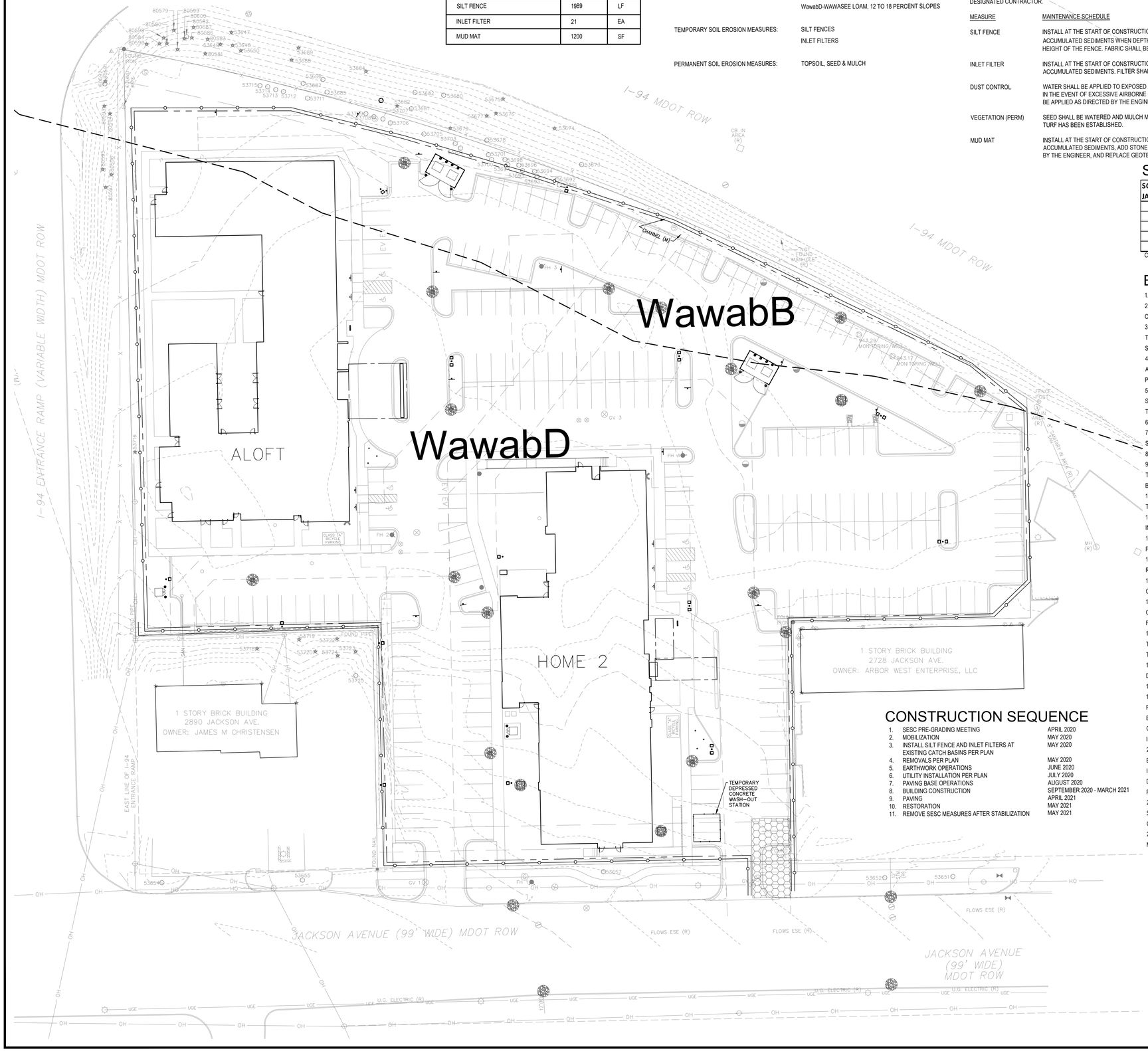
SOIL EROSION SEDIMENT CONTROL
JACKSON AVE. HOTELS

No.	Description	Quanitity	Unit	Unit Cost	Total Cost
1	SILT FENCE	1990	L.F.	$3.00	$5,970.00
2	INLET FILTER	21	EA.	$80.00	$1,680.00
3	MUD MAT	1200	EA.	$1.67	$2,000.00
				TOTAL	**$9,650.00**

COST TO STABILIZE SITE SHOULD CONSTRUCTION CEASE = $25,190

EROSION CONTROL NOTES

1. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS AND RESPONSIBILITIES.
2. ALL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ANN ARBOR.
3. ANY EROSION AND SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED WITHIN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. (WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS)
4. THE CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS DIRECTED ON THESE PLANS AND WHENEVER OTHERWISE REQUIRED BY THE WORK. THE CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER CHANGES HAVE BEEN ACCOMPLISHED.
5. SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENTATION CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF DIRT OUT OF THE WORK AREA.
6. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE.
7. PROTECT ALL EXISTING TREES, INCLUDING THEIR BRANCHES AND ROOTS, FROM DAMAGE DUE TO THIS WORK UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL.
8. VEGETATION STABILIZATION OF ALL DISTURBED AREAS SHALL BE ESTABLISHED WITHIN 5 DAYS OF COMPLETION OF FINAL GRADING.
9. THE CONTRACTOR SHALL SWEEP THE EXISTING STREETS SURROUNDING THE PROJECT SITE ONCE A WEEK, OR AS DIRECTED BY THE ENGINEER OR INSPECTOR. STREET SCRAPING SHALL BE PERFORMED IN CONJUNCTION WITH THIS SWEEPING ON AN AS NEEDED BASIS.
10. THE SEDIMENT CONTROL FENCING INDICATED ON THIS PLAN IS NOT INTENDED TO SHOW THE EXACT LOCATION OF THE FENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE REQUIRED TO CONTAIN SEDIMENT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH ALL APPLICABLE NPDES REGULATIONS, INCLUDING: INSPECTION, RESTORATION, AND RECORD KEEPING REQUIREMENTS.
12. THE CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL SOIL EROSION CONTROLS AS INDICATED BY THESE PLANS.
13. CONSTRUCTION ACTIVITIES (INCLUDING INSTALLATION OF PIPE AND ASSOCIATED VALVES, STRUCTURES, BACK FILLING, SURFACE RESTORATION, AND REMOVAL OF EXCESS EXCAVATED MATERIAL) SHALL BE ACCOMPLISHED IN ONE CONTINUOUS OPERATION.
14. PAVEMENT AND/OR VEGETATION SHALL NOT BE STRIPPED FROM AN AREA UNLESS CONSTRUCTION ACTIVITIES ARE TO COMMENCE IN THAT AREA WITHIN THE NEXT THREE DAYS.
15. IF FOR ANY REASON PERMANENT STABILIZATION CAN NOT BE PROVIDED WITHIN 5 DAYS OF THE COMPLETION OF PIPE LAYING OPERATIONS, TEMPORARY STABILIZATION SHALL BE PROVIDED AT ALL DISTURBED AREAS. TEMPORARY STABILIZATION SHALL FURTHERMORE BE PROVIDED DURING THE NON-GROWING SEASON (OCTOBER 1 THROUGH APRIL 20) FOR ALL AREAS TO BE SEEDED.
16. TEMPORARY STABILIZATION SHALL CONSIST OF EITHER SMALL GRAIN STRAW OR GRASS HAY SPREAD AT THE RATE OF 1.5 TO 2 TONS PER ACRE, OR MULCH BLANKETS, WHICH SHALL BE ANCHORED IN PLACE TO PREVENT DISPLACEMENT FROM WIND AND RAIN. TEMPORARY STABILIZATION SHALL BE REPAIRED AS OFTEN AS NECESSARY, AS DETERMINED BY THE AGENCY WITH JURISDICTION.
17. ALL DEWATERING SHALL BE ACCOMPLISHED IN A MANNER THAT WILL NOT CONTRIBUTE TO DEPOSITION OF SEDIMENT IN ROAD DITCHES OR OPEN WATER.
18. THIS PROJECT SHALL BE CONSTRUCTED IN COMPLIANCE WITH PART 91 OF ACT 451 OF 1994, AS AMENDED.
19. SEDIMENT CONTROL FENCING SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED STORM EVENTS. IF THE FENCE IS SAGGING, OR SOIL HAS REACHED ONE HALF OF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC SHALL BE REMOVED AND DISPOSED OF IN A STABLE AREA OF THE SITE. IF WATER IS SEEPING UNDER THE FENCE, OR THE FABRIC IS DECOMPOSED OR OTHERWISE INEFFECTIVE, THE FENCE SHALL BE REMOVED AND PROPERLY REINSTALLED AS INDICATED ON THESE PLANS.
20. MUD MAT ENTRANCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH STORM RAINFALL. THE SURROUNDING ROADS SHALL ALSO BE INSPECTED AT THIS TIME FOR EVIDENCE THAT MUD IS BEING TRACKED OFF OF THE SITE. MAINTENANCE SHALL INCLUDE THE INSTALLATION OF ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. ALL SEDIMENT DROPPED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE REMOVED IMMEDIATELY BY SWEEPING AND SCRAPING (AS MAY BE REQUIRED BY THE ENGINEER).
21. SEDIMENT INLET FILTERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED STORM EVENTS. THE FILTERS SHALL BE CLEANED PERIODICALLY THROUGHOUT CONSTRUCTION TO AVOID CLOGGING. FILTERS THAT CANNOT BE MAINTAINED BY CLEANING SHALL BE COMPLETELY REPLACED.
22. BOTH INTERNAL AND EXTERNAL STREETS WILL BE CLEANED OF ANY TRACKED MUD IMMEDIATELY FOLLOWING EACH MUD-TRACKING OCCURRENCE.



CONSTRUCTION SEQUENCE

1.	SESC PRE-GRADING MEETING	APRIL 2020
2.	MOBILIZATION	MAY 2020
3.	INSTALL SILT FENCE AND INLET FILTERS AT EXISTING CATCH BASINS PER PLAN	MAY 2020
4.	REMOVALS PER PLAN	MAY 2020
5.	EARTHWORK OPERATIONS	JUNE 2020
6.	UTILITY INSTALLATION PER PLAN	JULY 2020
7.	PAVING BASE OPERATIONS	AUGUST 2020
8.	BUILDING CONSTRUCTION	SEPTEMBER 2020 - MARCH 2021
9.	PAVING	APRIL 2021
10.	RESTORATION	MAY 2021
11.	REMOVE SESC MEASURES AFTER STABILIZATION	MAY 2021

LEGEND

- PR. SILT FENCE
- SOIL LINES
- PR. LIMITS OF EARTH DISRUPTION
- PR. TEMP. STONE ACCESS DRIVE
- AbC SOIL TYPE
- INLET FILTER BAG
- INLET FILTER WITH SILT FENCE
- RIP RAP

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

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DEAN A WAKELAND
ENGINEER
No. 58868
LICENSED PROFESSIONAL ENGINEER

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DATE:	ISSUE:
12.19.2018	REZONING
01.30.2019	SUBMITTAL
02.25.2019	OWNER REVIEW
02.28.2019	SUBMITTAL
08.22.2019	SUBMITTAL
12.06.2019	SUBMITTAL
01.27.2020	SUBMITTAL
02.28.2020	SUBMITTAL

Developed For:

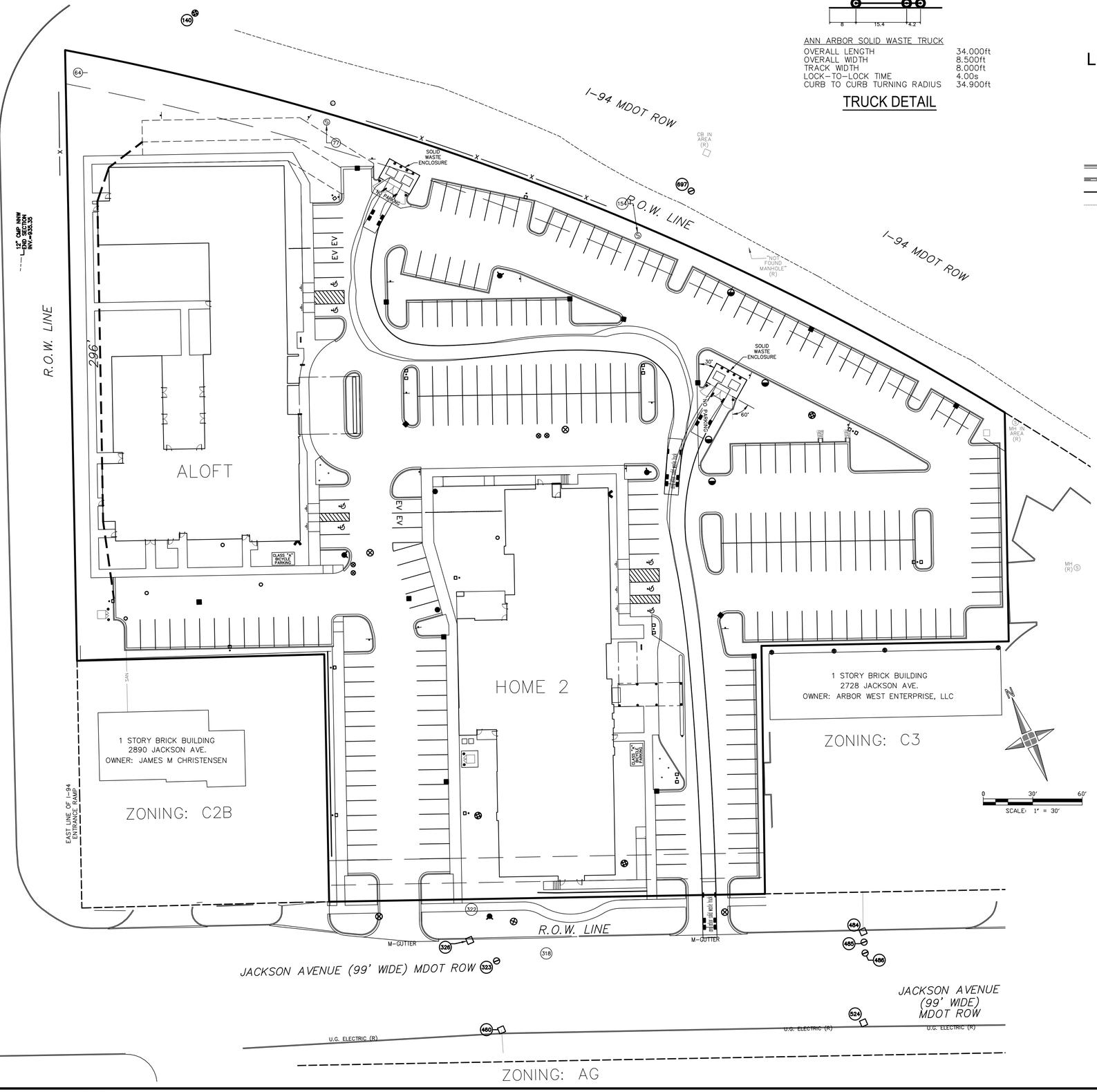
ANN ARBOR BEST HOSPITALITY, INC.
31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071
(248) 281-4168

SOIL EROSION PLAN

2800 JACKSON AVENUE HOTELS

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	08.29.2018
Scale:	1"=30'
Sheet:	09
Project:	19452.00



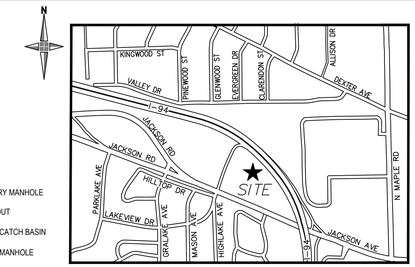
ANN ARBOR SOLID WASTE TRUCK

OVERALL LENGTH	34.000ft
OVERALL WIDTH	8.500ft
TRACK WIDTH	8.000ft
LOCK-TO-LOCK TIME	4.00s
CURB TO CURB TURNING RADIUS	34.900ft

TRUCK DETAIL

LEGEND

- PR. SANITARY MANHOLE
- PR. CLEANOUT
- PR. STORM CATCH BASIN
- PR. STORM MANHOLE
- PR. FIRE HYDRANT
- PR. LIGHTPOLE
- REVERSE CURB
- STANDARD CURB
- PROPERTY BOUNDARY
- RAILING
- RIP RAP



LOCATION MAP
(NOT TO SCALE)

GENERAL NOTES:

1. A CLEAR SPACE MUST BE MAINTAINED DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION OF THE ENCLOSURE PLUS FOUR (4) FEET ON BOTH SIDES. A MINIMUM VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED ABOVE THIS AREA.
2. INGRESS AND EGRESS ROUTES MUST BE DEVELOPED BASED ON SOLID WASTE SWEPT PATH REQUIREMENTS. A MINIMUM HORIZONTAL CLEARANCE OF TWO (2) FEET FROM THE EDGE OF THE SWEPT PATH AND A MINIMUM VERTICAL CLEARANCE OF AT LEAST FIFTEEN (15) FEET MUST BE PROVIDED ALONG THE ENTIRE ROUTE.
3. GATES ON ENCLOSURES MUST BE DESIGNED TO OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES MUST NOT REDUCE THE REQUIRED ENCLOSURE OPENING WIDTH, BLOCK ADJACENT PARKING SPOTS, OR BE IMPEDED BY ADJACENT CURBS OR LANDSCAPING.
4. GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT A CENTER POLE. IF A CENTER POLE DESIGN IS NECESSARY, 12-INCHES SHALL BE ADDED TO THE OVERALL WIDTH OF THE ENCLOSURE.
5. GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.
6. THE CONCRETE SLAB IN FRONT OF THE BIN ENCLOSURE SHALL HAVE PAVEMENT MARKINGS TO INDICATE "NO PARKING", AS APPROVED BY CITY.
7. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS/EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF OBSTRUCTIONS.
8. REFER TO ASSOCIATED STANDARD DETAILS FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY, TO ACCOMMODATE THE CITY OR CITY CONTRACTOR NEEDS IN REGARDS TO SOLID WASTE PICK-UP.
9. SOLID WASTE ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION TRUCKS WEIGHING UP TO 66,000 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS OF SOLID WASTE VEHICLES.
10. THE SOLID WASTE COLLECTION LOCATION SHALL BE LOCATED A MINIMUM OF TEN (10) FEET AWAY FROM MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, TREE BRANCHES, BALCONIES OR OTHER OVERHEAD OBSTRUCTIONS.
11. IF FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE TRUCK, THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION.
12. FOR SITES THAT CANNOT ACCOMMODATE A TURN-AROUND, THE FOLLOWING REQUIREMENTS MUST BE MET:
    - 12.1. SOLID WASTE TRUCKS MUST BE ABLE TO SERVICE DUMPSTERS WITHOUT IMPEDING THE PUBLIC STREET OR SIDEWALK.
    - 12.2. THE DUMPSTER COLLECTION LOCATION SHALL BE CLEARLY DELINEATED AND NOT HAVE A SLOPE GREATER THAN 2% IN ANY DIRECTION.
    - 12.3. BOLLARDS OR ADEQUATE CLEAR SPACE MUST BE PROVIDED BEHIND THE LIFT POINT SO THE DUMPSTERS ARE NOT POTENTIALLY PUSHED INTO ANY BUILDING OR ACCESS ROUTE.
    - 12.4. ALL SWEPT-PATH CLEARANCE REQUIREMENTS PREVIOUSLY IDENTIFIED SHALL BE PROVIDED.
    - 12.5. A VERTICAL CLEARANCE OF 25 FEET SHALL BE PROVIDED ABOVE THE COLLECTION LOCATION.
13. FOR SITES THAT CANNOT ACCOMMODATE A STANDARD DUMPSTER ENCLOSURE, THE DUMPSTERS MAY BE ROLLED OUT OF A BUILDING OR ALTERNATE ENCLOSURE BY THE PROPERTY OWNER TO A PROPOSED COLLECTION LOCATION. A COLLECTION SCHEDULE FOR RECYCLING AND TRASH COLLECTION SHALL BE PROVIDED ON THE SITE PLAN.
14. FOR SITES ADJACENT TO A PUBLIC ALLEY, SOLID WASTE TRUCKS ARE PERMITTED TO ACCESS THE PROPERTY THROUGH THE ALLEY IF SWEPT-PATH CLEARANCE REQUIREMENTS CAN BE PROVIDED.
15. SOLID WASTE COLLECTION LOCATIONS MUST BE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTY.

SITE SPECIFIC NOTES

1. 1- 6 YARD TRASH CONTAINER AND 1- 6 YARD RECYCLING CONTAINER TO BE USED FOR EACH HOTEL
2. SCHEDULE - EACH HOTEL WILL REQUIRE A PICKUP MONDAY, WEDNESDAY AND FRIDAY FOR BOTH WASTE AND RECYCLING.

FOR DOUBLE BIN ENCLOSURE DETAIL - SEE SHEET 11

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Developed For:

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31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071
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SOLID WASTE PLAN

2800 JACKSON AVENUE HOTELS

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

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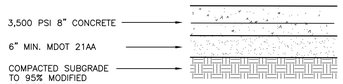
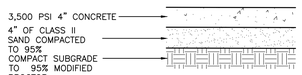


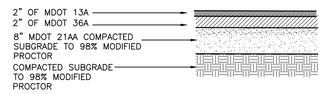
8" REINFORCED CONCRETE SLAB

NOT TO SCALE



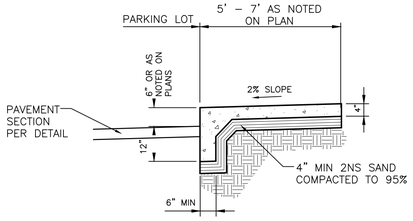
4" CONCRETE SIDEWALK

NOT TO SCALE



STANDARD DUTY ASPHALT PAVEMENT SECTION

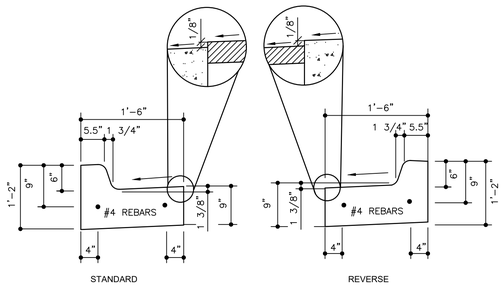
NOT TO SCALE
NOTE:
1. IF ANY OF THE EXISTING BASE CANNOT BE UTILIZED, IT SHALL BE REMOVED AND REPLACED WITH MDOT 21AA MATERIAL.
2. THE PLACEMENT OF THE FINAL LIFT OF ASPHALT SHALL BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION HAS BEEN COMPLETED, OR AS DIRECTED BY THE ENGINEER.
3. A BOND COAT OF SS-1H EMISSION SHALL BE APPLIED (AT A RATE OF 0.10 GALLONS/S.Y. BETWEEN THE LEVELING AND WEARING COURSE WHEN 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT.



6" INTEGRAL CONCRETE CURB & WALK

NOT TO SCALE

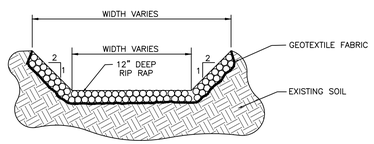
NOTE:
USE 8" CONCRETE WALK IF WITHIN DRIVE APPROACH, INTERSECTION OR CALLED OUT ON PLANS. PLACE 2NS SAND AS REQUIRED TO OBTAIN GRADE AND COMPACT TO 95% MODIFIED PROCTOR.



18" CONCRETE CURB & GUTTER

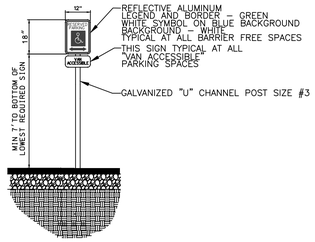
NOT TO SCALE

NOTE:
USE MDOT 35P CONCRETE-TYPICAL ALL C&G. REFERENCE MDOT DETAIL II-30D TYPE F4.



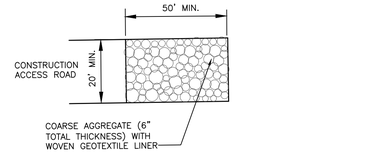
SPILLWAY DETAIL

NOT TO SCALE



BARRIER FREE PARKING & "NO PARKING FIRE LANE" SIGN IN GREENBELT

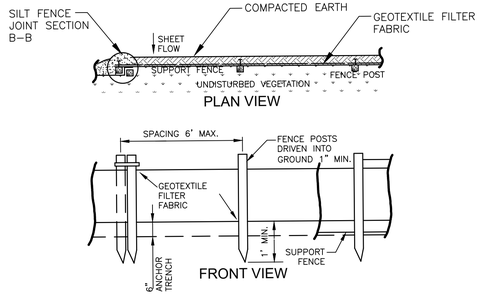
(DETAIL ALSO TO BE FOLLOWED FOR ALL OTHER TRAFFIC CONTROL SIGNAGE)
ONE AT EACH BARRIER FREE SPACE.
WHERE BARRIER FREE SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES



MUD MAT ENTRANCE

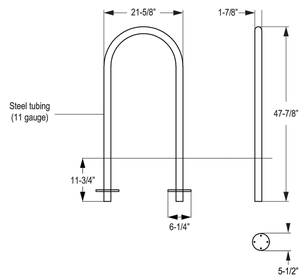
NOT TO SCALE

NOTE:
GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.



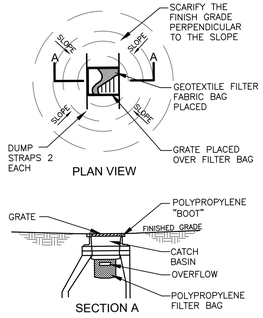
SEDIMENT CONTROL FENCING

NOT TO SCALE



BIKE RACK DETAIL

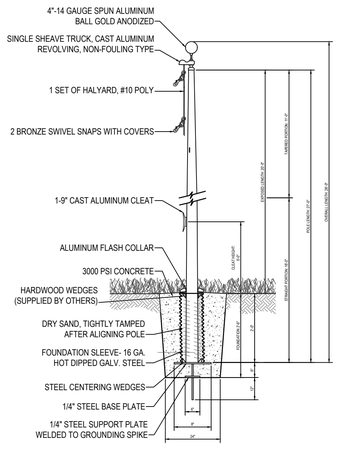
NOT TO SCALE



TEMPORARY SEDIMENT INLET FILTER

NOT TO SCALE

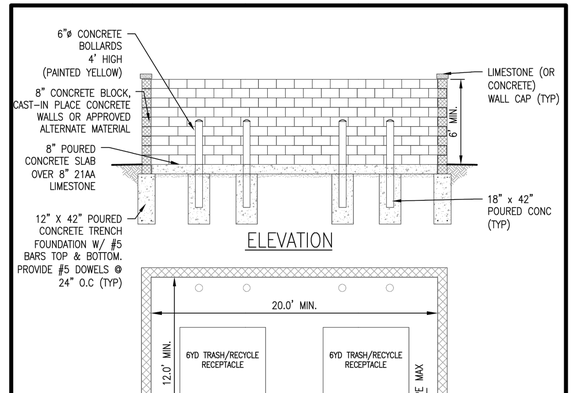
NOTE:
TEMPORARY SEDIMENT INLET FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS, OR AS SPECIFIED ON THE SOIL EROSION CONTROL PLAN. INLET FILTER TO BE SIMILAR TO "STEAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206-767-0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS, INC., (800-448-3636). CLEAN FILTER AS NEEDED, OR AS REQUIRED BY THE SOIL EROSION CONTROL PLAN.



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.

TYPICAL FLAGPOLE DETAIL

NOT TO SCALE



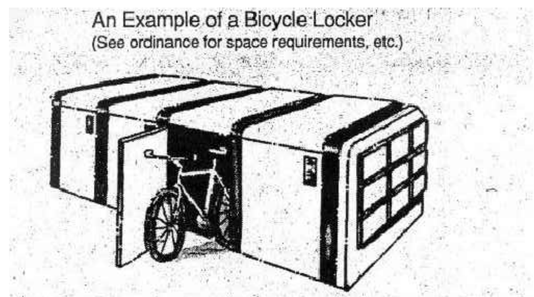
DOUBLE BIN ENCLOSURE DETAIL

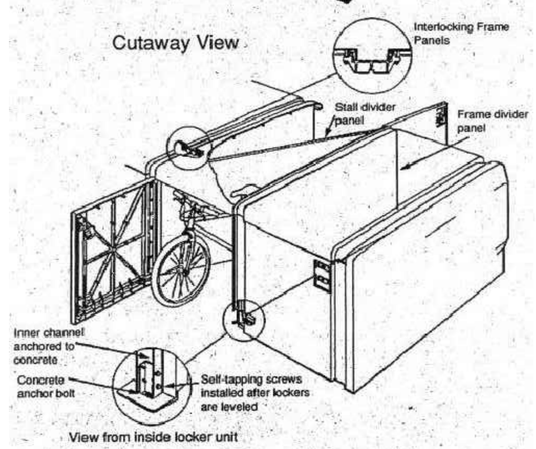
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY

SOLID WASTE STANDARD DETAILS

DR. OHM	CH. CJE	DRAWING NO. **PAGE 2**
SCALE N.T.S.	DATE 12/29/15	





TYPICAL BIKE LOCKER DETAIL

NOT TO SCALE

NOT TO BE USED AS CONSTRUCTION DRAWINGS

giffels webster
Engineers
Surveyors
Planners
Landscape Architects
1025 East Maple Road
Suite 100
Birmingham, MI 48009
p (248) 852-3100
f (313) 962-5068
www.giffelswebster.com

Executive:	MP
Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	25
	T-2-S R-5-E

Professional Seal:

STATE OF MICHIGAN
DEAN A WAKELAND
ENGINEER
No. 58868
LICENSED PROFESSIONAL ENGINEER

Know what's below. Call before you dig.

DATE:	ISSUE:
12.19.2018	REZONING
01.30.2019	SUBMITTAL
02.25.2019	OWNER REVIEW
02.28.2019	SUBMITTAL
08.22.2019	SUBMITTAL
12.06.2019	SUBMITTAL
01.27.2020	SUBMITTAL
02.28.2020	SUBMITTAL

Developed For:

ANN ARBOR BEST HOSPITALITY, INC.
31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071
(248) 281-4168

SITE DETAILS

2800 JACKSON AVENUE
HOTELS

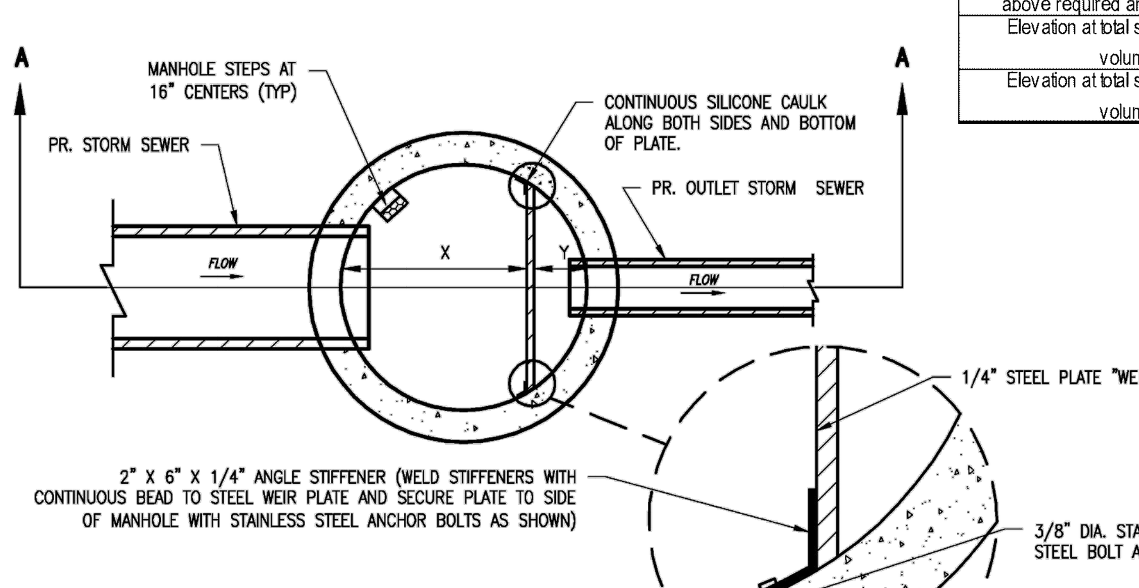
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	08.29.2018
Scale:	AS NOTED
Sheet:	11
Project:	19452.00

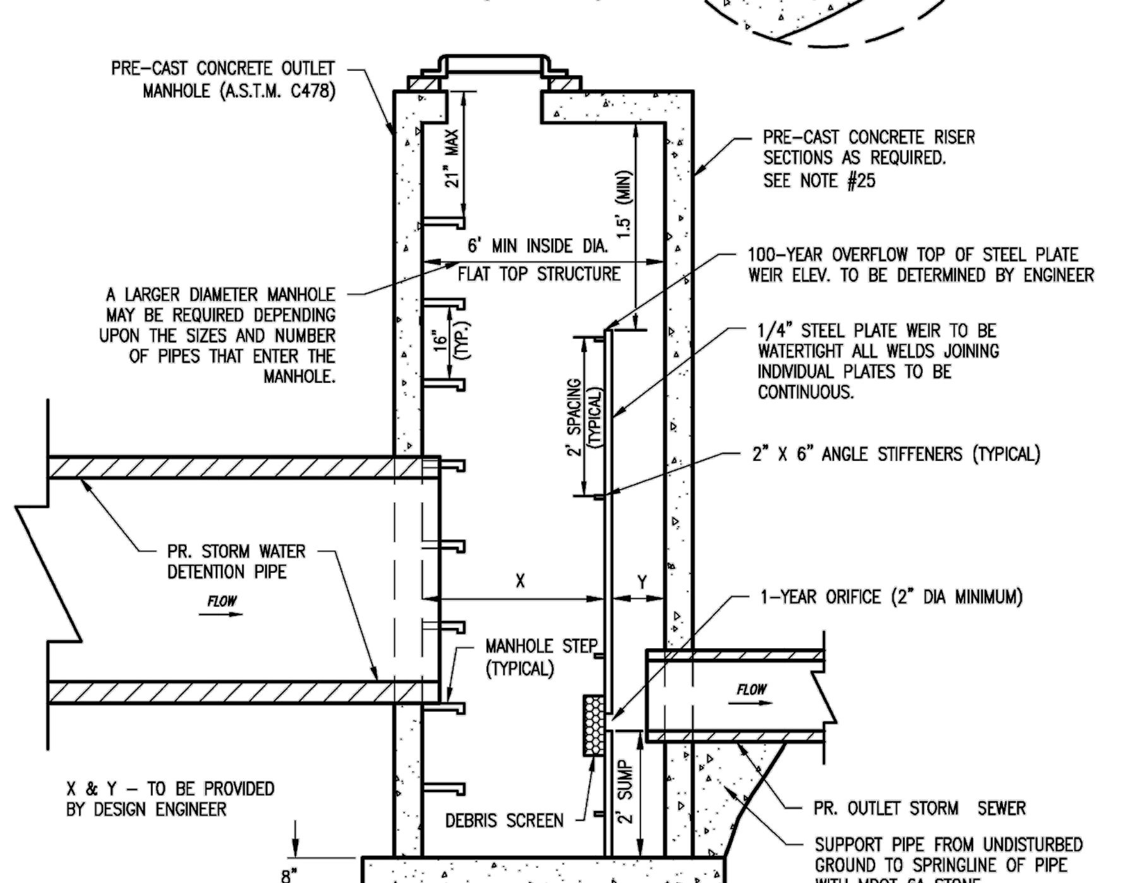
OUTLET CONTROL SIZING CALCULATIONS

NOT TO SCALE

FIRST FLUSH RUNOFF			
$Q_{(ff)} = V/T_{24}$	$Q_{(ff)}$ =	0.149	CFS
12,879/(24x3600)			
$H_{(avg)} = 2/3(ELEV_{(ff)}-ELEV_{(bot)}$	$H_{(avg)}$ =	1.51	FT
0.667(931.27-929.00)			
$A_{(ff)} = Q_{(ff)}/(0.62\ [2xGxH_{(avg)}]^{1/2})$	$A_{(ff)}$ =	0.024	SF
$0.149/(0.62\ [2x32.2x1.51]^{1/2})$			
Area of 1" diameter hole = 0.0055 sf			
Number of Holes, n = A(ff)/0.0055	4.43	Holes	
0.0229/0.0055		**Use 4-1" diameter holes for orifice at elevation 929.00**	
Detention Time			
$Qact._{(ff)} = A_{(ff)}(0.62)\ [(2GH)]^{1/2}$	$Qact._{(ff)}$ =	0.135	CFS
$4x0.00545x(0.62\ [2x32.2x1.23]^{1/2})$			
$Tact_{(ff)} = V_{(ff)}/Qact._{(ff)}$	$Tact._{(ff)}$ =	27	HRS
12879/0.134566			
BANKFULL FLOOD			
$H_{(avg)} = 2/3(ELEV_{(bf)}-ELEV_{(bot)}$	$H_{(avg)}$ =	3.11	FT
0.667(933.66-929)			
$Q = A_{(ff)}(0.62)\ [(2GH)]^{1/2}$	Q =	0.386	CFS
$4x0.00545x(0.62\ [2x32.2x3.97]^{1/2})$			
$T = V_{(bf)}/Q$	T =	18	HRS
49005/(0.432x3600)			
Time is less than 48 hrs therefore no additional holes are necessary			
100 YR FLOOD			
Allowable Outflow, $Q_{(a)}$ =		0.67	CFS
Q(a) = 0.15 cfs/acre * 4.48 acres			
High Water Level Elevation, HWL=		936.15	
Determine Flow From 4 Holes at Invert Elevation = 929			
$H_{(avg)} = 2/3(ELEV_{(HWL)}-ELEV_{(bot)})$	$H_{(avg)}$ =	4.77	FT
0.667(936.15-929)			
$Q_{(100)a} = A_{(ff)}(0.62)\ [(2GH)]^{1/2}$	$Q_{(100)a}$ =	0.48	CFS
$4x0.0055x(0.62\ [2x32.2x4.77]^{1/2})$			
Determine Number of Holes Needed at Bankfull Elevation to Allow Remainder of Outflo			
$Q_{(100)b} = Q_{allow} - Q_{(100)a}$	$Q_{(100)b}$ =	0.19	CFS
0.67-.48			
Find H Between HWL and Bankfull Elevation			
$H_{(avg)} = 2/3(ELEV_{(HWL)}-ELEV_{(bf)})$	$H_{(avg)}$ =	1.66	FT
0.667(936.15-933.66)			
$A = Q_{(100)b}/(0.62\ [2xGxH_{(avg)}]^{1/2})$	A =	0.0302	SF
$0.19/(0.62\ [2x32.2x1.66]^{1/2})$			
Area of 1" diameter = 0.0055 sf			
Number of Holes, n = A(ff)/0.0055	5.50	Holes	
0.03/0.0055		**Use 5-1" diameter holes for orifice at elevation 933.66**	
$H_{(all)} = 2/3(ELEV_{(HWL)}-ELEV_{(bf)})$	$H_{(all)}$ =	4.77	FT
0.667(936.15-929)			
$Q_{all} = A_{(ff)}(0.62)\ [(2GH)]^{1/2}$	Q_{all} =	0.598	CFS
$5x0.00545x(0.62\ [2x32.2x4.77]^{1/2})$			
$T_{100} = V_{(bf)}/Q$	T_{100} =	32	HRS
69965/(0.282x3600)			
Total Time = T + T_{100}	Total Time =	50	HRS
18Hrs +32Hrs			



PLAN VIEW (WEIR PLATE)



PROFILE VIEW - SECTION A-A (WEIR PLATE)

FIRST FLUSH SIZING CALCULATIONS

NOT TO SCALE

Project: Ann Arbor Hospitality
Location: *Ann Arbor, MI*
Prepared For: Giffels Webster

CONTECH ENGINEERED SOLUTIONS

Purpose: To calculate the first flush runoff flow rate (WQF) over a given site area. In this situation the WQV to be analyzed is the runoff produced by the first 1" of rainfall.

Reference: United States Department of Agriculture Natural Resources Conservation Service TR-55 Manual

Given:

Structure Name	A (acres)	A ($miles^2$)	Runoff Coefficient	Percent Imp. (%)*	t_c (min)	t_c (hr)
WQU	3.96	0.00618	0.79	80.83	15	0.257
		0.00000		-50.00		0.000
		0.00000		-50.00		0.000

* Assumes runoff coefficient of 0.3 for pervious areas and 0.9 for impervious areas.

Procedure:

The Water Quality Flow (WQF) is calculated using the Water Quality Volume (WQV). This WQV, converted to watershed inches, is substituted for the runoff depth (Q) in the Natural Resources Conservation Service (formerly Soil Conservation Service), TR-55 Gr

1. Compute WQV in watershed inches using the following equation:

WQV = P * R

where: WQV = water quality volume (watershed inches)
P = design precipitation (inches)
R = volumetric runoff coefficient = 0.05 + 0.009(I)
I = percent impervious cover

Structure Name	Percent Imp. (%)	R	P (in)	WQV (in)	WQV (CF)
WQU	80.83	0.778	1	0.778	11,162.30
0	-50.00	-0.400		0.000	-
0	-50.00	-0.400		0.000	-

2. Compute the NRCS Runoff Curve Number (CN) using the following equation, or graphically using Figure 2-1 from TR-55 (USDA, 1986):

$$CN = 1000 / [10+5P+10Q-10(Q^2+1.25QP)^{1/2}]$$

where: CN = Runoff Curve Number
P = design precipitation (inches)
Q = runoff depth (watershed inches)

Structure Name	Q (in)	CN
WQU	0.778	97.85
0	0.000	100.00
0	0.000	100.00

3. Using computed CN, read initial abstraction (I_a) from Table 4-1 in Chapter 4 of TR-55; compute I_a/P, interpolating when appropriate.

Structure Name	I_a (in)	I_a/P
WQU	0.041	0.041
0		#DIV/0!
0		#DIV/0!

4. Compute the time of concentration (t_c) in hours and the drainage area in square miles. A minimum t_c of 0.167 hours (10 minutes) should be used.

Structure Name	t_c (hr)	A ($miles^2$)
WQU	0.257	0.00618
0	0.167	0.00000
0	0.167	0.00000

5. Read the unit peak discharge (q_u) from Exhibit 4-II in Chapter 4 of TR-55 for appropriate t_c for type II rainfall distribution.

Structure Name	t_c (hr)	I_a/P	q_u (csm/in)
WQU	0.257	0.041	723
0	0.167	#DIV/0!	
0	0.167	#DIV/0!	

6. Substituting WQV (watershed inches) for runoff depth (Q), compute the water quality flow (WQF) from the following equation:

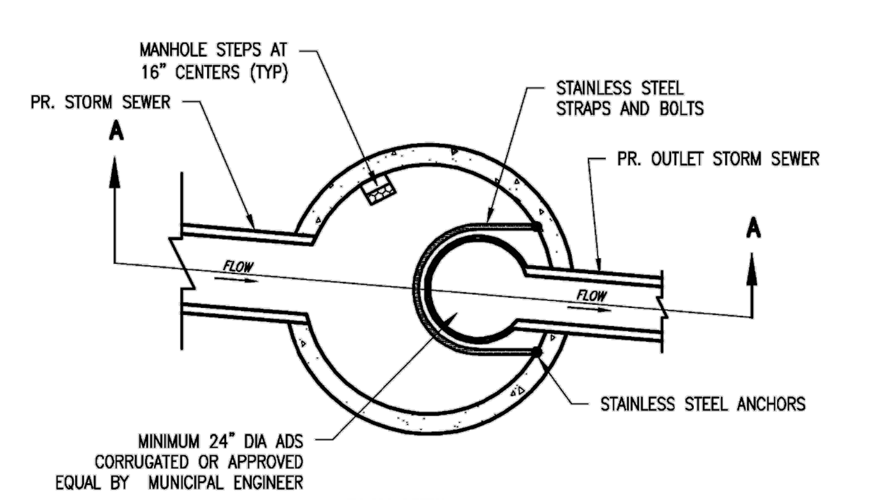
$$WQF = (q_u)*(A)*(Q)$$

where: WQF = water quality flow (cfs)
q_u = unit peak discharge ($cfs/mi^2/inch$)
A = drainage area (mi^2)
Q = runoff depth (watershed inches)

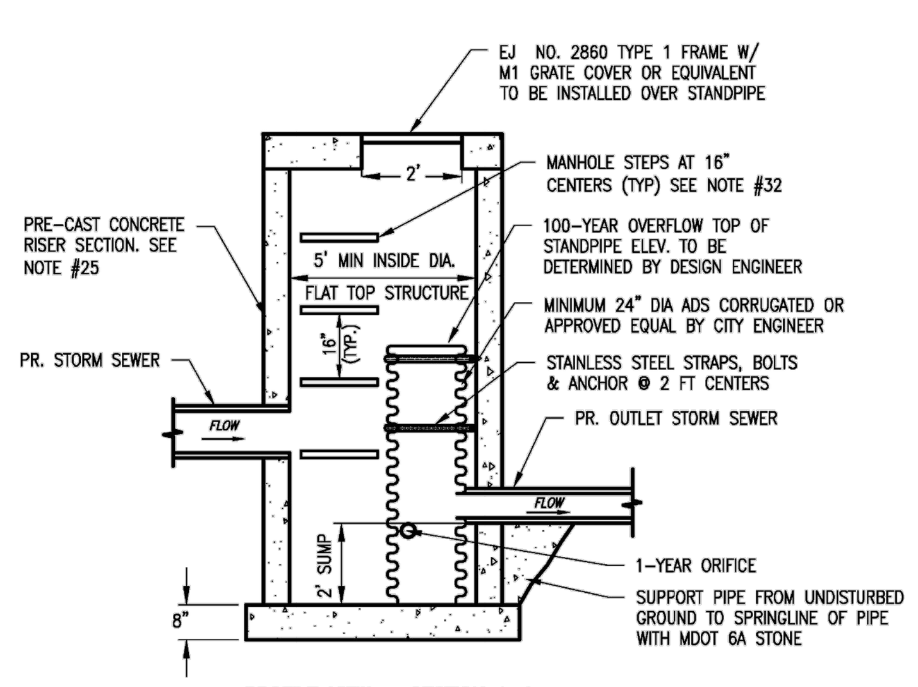
Structure Name	q_u (csm/in)	A ($miles^2$)	Q (in)	WQF (cfs)
WQU	723	0.00618	0.778	3.47
0	0	0.00000	0.000	0.00
0	0	0.00000	0.000	0.00

OULET CONTROL ORIFICE ELEVATION CALCULATIONS

First Flush Elevation Calculation								
Forebay storage volume required=	V_{tff}=	12,879.00		Z_{ff}=	E_1	+	x	(E_2-E_1)
Forebay storage volume just below required amount=	V_1=	9,936.80						
Forebay storage volume just above required amount=	V_2=	20,503.90						
Elevation at forebay storage volume V_1=	E_1=	931.00		=	931.27843			
Elevation at forebay storage volume V_2=	E_2=	932.00						
Bankfull Storage Elevation Calculation								
Forebay storage volume required=	V_{tff}=	12,879.00		$V_{bff\ adj}$=	V_{bff} - V_{tff}			
Bankfull storage volume required=	V_{bff}=	25,570.00		=	12,691.00			
Bankfull storage volume just below required amount=	V_{bff1}=	20,503.90						
Bankfull storage volume just above required amount=	V_{bff2}=	32,429.30		Z_{bff}=	E_{bff1}+	x	x	Ebff2-Ebff1
Elevation at bankfull storage volume Vbff1=	E_{bff1}=	933.00						
Elevation at bankfull storage volume Vbff2=	E_{bff2}=	932.00		=	933.655148			
Total Storage Elevation Calculation								
Forebay storage volume required=	V_{tff}=	12,879.00		$V_{t\ adj}$=	V_t - V_{tff}			
Total storage volume required=	V_t=	82,844.00		=	69,965.00			
Total storage volume just below required amount=	V_{t1}=	68,539.60						
Total storage volume just above required amount=	V_{t2}=	78,013.00		Z_t=	E_{t1}+	x	x	E_{t2}-E_{t1}
Elevation at total storage volume V_{t1}=	E_{t1}=	936.00						
Elevation at total storage volume V_{t2}=	E_{t2}=	937.00		=	936.150463			



PLAN VIEW (STANDPIPE OUTLET)



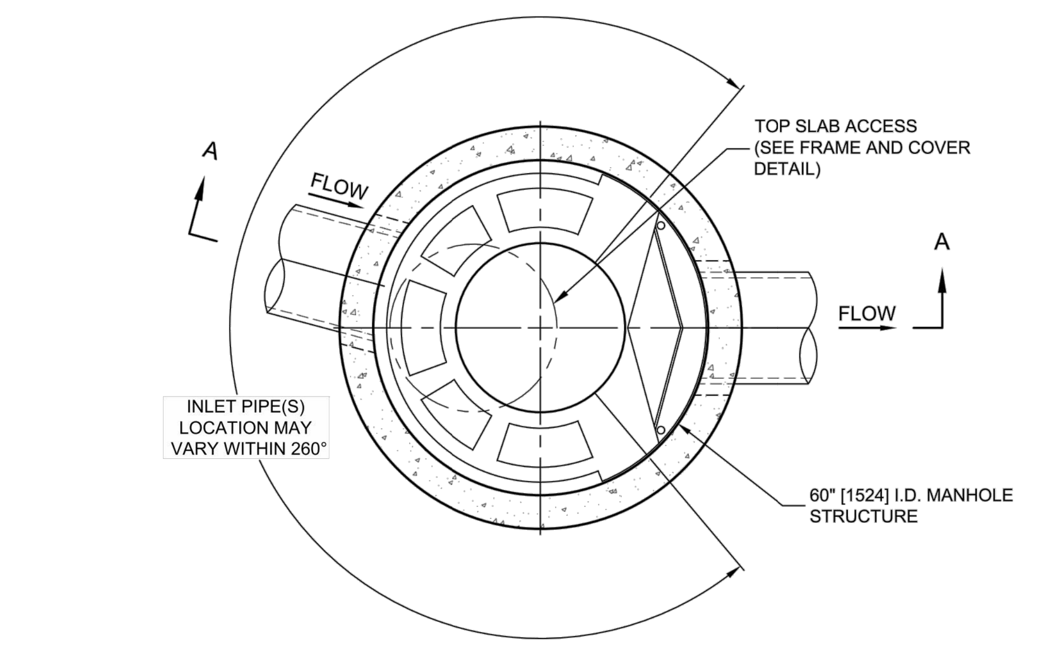
PROFILE VIEW - SECTION A-A (STANDPIPE OUTLET)

TYPICAL OUTLET MANHOLE DETAIL

NOT TO SCALE

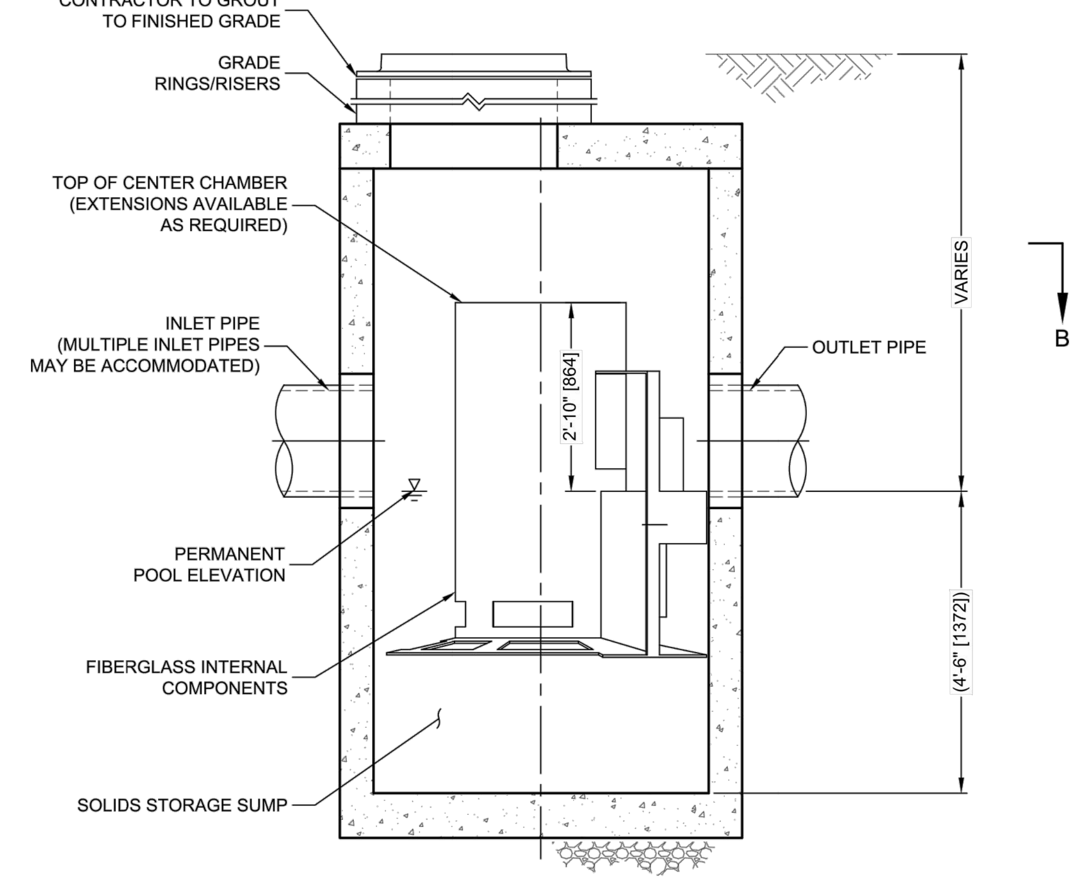
ELEVATION—STORAGE VOLUME TABLE

Elevation	Detention Incremental Volume (cft)	Cumulative Volume (cft)
938		
	5,515.7	83,528.7
937		
	9,473.4	78,013.0
936		
	11,363.7	68,539.6
935		
	12,285.3	57,175.9
934		
	12,461.3	44,890.6
933		
	11,925.4	32,429.3
932		
	10,567.1	20,503.9
931		
	7,859.8	9,936.8
930		
	2,077.0	2,077.0
929		
	83,528.70	cubic feet



PLAN VIEW B-B

NOT TO SCALE



ELEVATION A-A

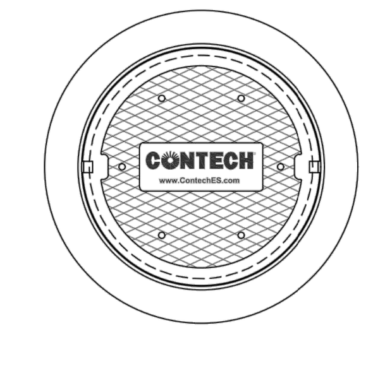
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-5 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES / SPECIAL REQUIREMENTS:			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-5
CASCADE SEPARATOR
STANDARD DETAIL

MECHANICAL FOREBAY DETAIL

NOT TO SCALE

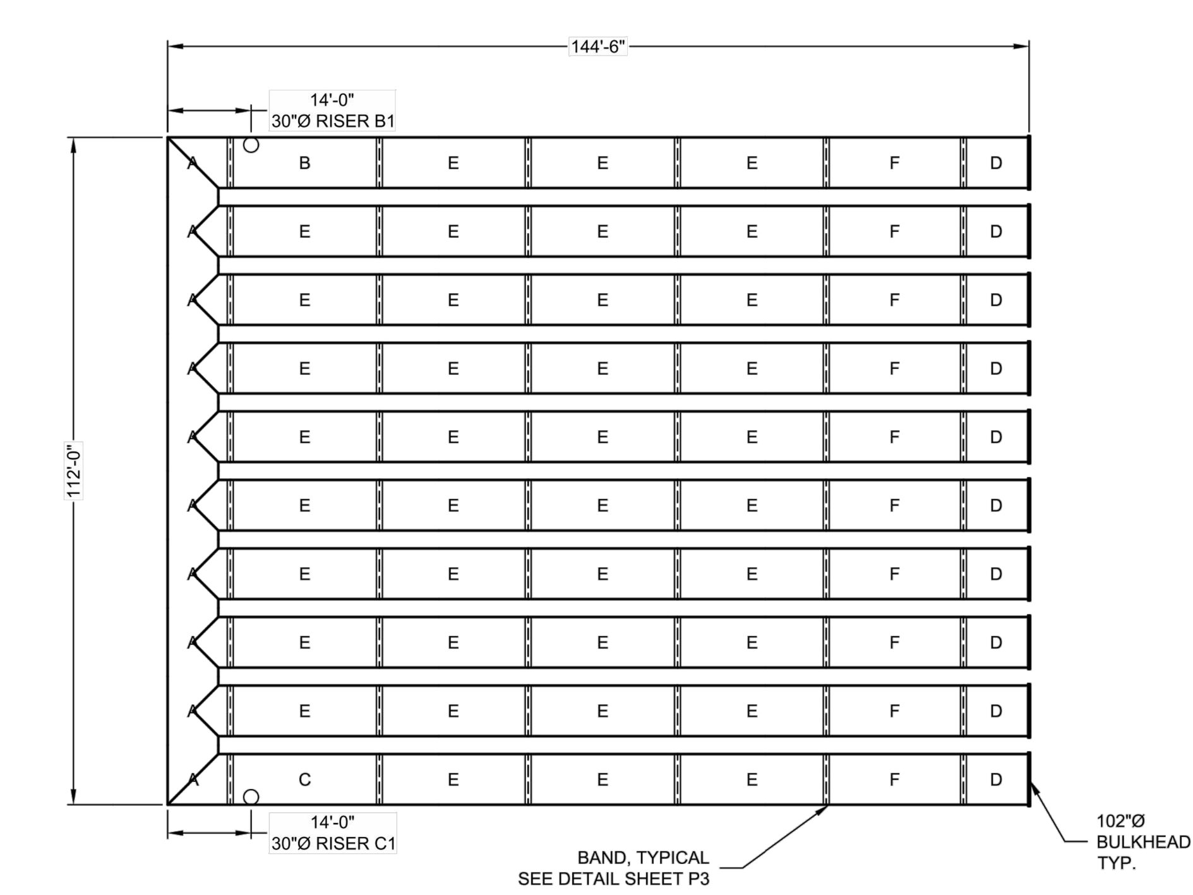
MECHANICAL FOREBAY TSS CALCULATIONS

AREA 3.96 acres
WEIGHTED C 0.79
TC 15.00 minutes
CASCADE MODEL CS-5
PARTICLE SIZE 110 microns
RAINFALL STATION 78

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	% Rainfall Volume Treated	Total Flowrate (cfs)	Removal Efficiency (%)	Incremental Removal (%)
0.02	13.13%	13.1%	13.1%	0.06	100.0	13.1
0.04	11.36%	24.5%	11.4%	0.13	100.0	11.4
0.06	10.08%	34.6%	10.1%	0.19	100.0	10.1
0.08	7.49%	42.1%	7.5%	0.25	100.0	7.5
0.10	7.01%	49.1%	7.0%	0.31	100.0	7.0
0.12	5.37%	54.4%	5.4%	0.38	100.0	5.4
0.14	4.73%	59.2%	4.7%	0.44	100.0	4.7
0.16	4.13%	63.3%	4.1%	0.50	100.0	4.1
0.18	3.53%	66.8%	3.5%	0.56	99.8	3.5
0.20	2.99%	69.8%	3.0%	0.63	98.5	2.9
0.25	5.50%	75.3%	5.5%	0.78	95.1	5.2
0.30	4.47%	79.8%	4.5%	0.94	91.7	4.1
0.35	3.85%	83.6%	3.9%	1.09	88.4	3.4
0.40	2.16%	85.8%	2.2%	1.25	85.0	1.8
0.45	2.09%	87.9%	2.1%	1.41	81.7	1.7
0.50	1.31%	89.2%	1.3%	1.56	78.3	1.0
0.75	5.07%	94.3%	5.1%	2.35	61.5	3.1
1.00	2.58%	96.9%	2.6%	3.13	44.7	1.2
1.50	2.50%	99.4%	1.9%	4.69	27.4	0.7
2.00	0.51%	99.9%	0.3%	6.26	20.5	0.1
2.54	0.15%	100.0%	0.1%	7.95	16.2	0.0
						92.2

Removal Efficiency Adjustment[2] = 6.5%
Predicted % Annual Rainfall Treated = 92.6%
Predicted Net Annual Load Removal Efficiency = 85.7%

1 - Based on 5.5 years of 15 minute precipitation data form NCDC station 2102 at Detroit City Airport in Detroit, MI
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.



ASSEMBLY
SCALE: 1" = 30'
PIPE STORAGE: 83,529 CF
LOADING: H20
PIPE INV. = TBD'±

THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (5) PAGES INCLUDING THE FOLLOWING:
- **PIPE STORAGE = 83,529 CF**
- **MAINLINE PIPE GAGE = 14**
- **WALL TYPE = SOLID**
- **DIAMETER = 102"**
- **FINISH = ALT2**
- **CORRUGATION = 5x1**

CUSTOMER DATE

NOTES
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD (EOR) PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE AS REQUIRED, BY CONTRACTOR.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ACCESS CASTINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT SUPPLIED BY CONTECH.

I:\MERLIN\PROJECT\ACTIVE\635200\635260\635260-10-CMP DETENTION\DRAWINGS\635260-010-CMP CONFAB.DWG 12/5/2

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
7037 Ridge Road, Hanover, MD 21076
866-740-3318 410-796-5505 866-376-8511 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

102"Ø UNDERGROUND DETENTION SYSTEM - 635260-010
ANN ARBOR BEST HOSPITALITY
ANN ARBOR, MI
SITE DESIGNATION:

PROJECT No.: 635260 SEQ. No.: 010 DATE: 12/5/2019
DESIGNED: PWV DRAWN: PWV
CHECKED: APPROVED:
SHEET NO.: P1 OF 5

UNDERGROUND DETENTION DETAIL

NOT TO SCALE

NOT TO BE USED AS CONSTRUCTION DRAWINGS

giffels webster

Engineers
Surveyors
Planners
Landscape Architects

1025 East Maple Road
Suite 100
Birmingham, MI 48009
p (248) 852-3100
f (313) 962-5068
www.giffelswebster.com

Executive:	MP
Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	25
	T-2-S R-5-E

Professional Seal:

811 Know what's **below.** **Call** before you dig.

DATE:	ISSUE:
12.19.2018	REZONING
01.30.2019	SUBMITTAL
02.25.2019	OWNER REVIEW
02.28.2019	SUBMITTAL
08.22.2019	SUBMITTAL
12.06.2019	SUBMITTAL
01.27.2020	SUBMITTAL
02.28.2020	SUBMITTAL

Developed For:

ANN ARBOR BEST HOSPITALITY, INC.

31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071

(248) 281-4168

STORM WATER DETAILS

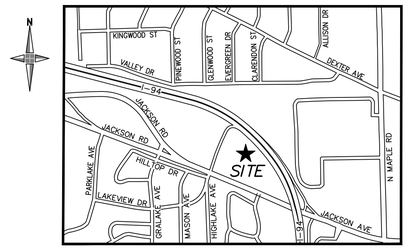
2800 JACKSON AVENUE HOTELS

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	08.29.2018
Scale:	
Sheet:	12
Project:	19452.00

NOTES:

1. SNOW SHALL NOT BE PUSHED INTO INTERIOR LANDSCAPE ISLANDS UNLESS DESIGNED FOR SNOW STORAGE.
2. ALL PLANT SPECIES DEVIATIONS FROM THE APPROVED SITE PLAN MUST BE APPROVED BY THE CITY OF ANN ARBOR PRIOR TO INSTALLATION.
3. COMPACTED SOILS IN NON-PAVED AREAS SHALL BE RIPPED TO THE DEPTH OF 6-12" PRIOR TO SPREADING TOPSOIL OR PLANT MEDIUM. ANY DEBRIS STICKS, FOREIGN MATERIALS, OR STONE SHALL BE REMOVED PRIOR TO SPREADING TOPSOIL.
4. IN THE EVENT OF A WATER MAIN BREAK, REPAIR, OR REPLACEMENT, RESTORATION OF THE BIO-RETENTION AREA IS THE RESPONSIBILITY OF THE DEVELOPMENT.



LOCATION MAP
(NOT TO SCALE)

LANDSCAPING & SCREENING CALCULATIONS:

	REQUIRED:	PROVIDED:
RIGHT-OF-WAY ON JACKSON AVENUE	146.1' BUFFER	146.1' BUFFER
1, TREE PER 30 L.F. 146.1 / 30 =	5 TREES	5 TREES
1, 30" HT. SHRUB PER 4 L.F. 146.1 / 4 =	37 SHRUBS	37 SHRUBS
RIGHT-OF-WAY ON I-94 HIGHWAY	REQUIRED:	PROVIDED:
1, TREE PER 30 L.F. 312 / 30 =	312' BUFFER	312' BUFFER
1, 30" HT. SHRUB PER 4 L.F. 312 / 4 =	11 TREES	11 TREES
	78 SHRUBS	78 SHRUBS
RIGHT-OF-WAY ON HIGHWAY RAMP	REQUIRED:	PROVIDED:
1, TREE PER 30 L.F. 44 / 30 =	44' BUFFER	44' BUFFER
1, 30" HT. SHRUB PER 4 L.F. 44 / 4 =	2 TREES	2 TREES
	11 SHRUBS	11 SHRUBS
STREET TREE CALCULATIONS	REQUIRED:	PROVIDED:
1, TREE PER 45 L.F. 264 / 45 =	6 TREES	2 TREES EXISTING
		4 TREES PROPOSED
		6 TREES PROVIDED
PROPOSED PAVED AREA = 88,405 SQ.FT.		
INTERIOR LANDSCAPING (88,405 SQ.FT. VEHICLE USE AREA) 88,405 SQ.FT. x 1:15 = 5,894	5,894 SQ.FT.	7,585 SQ.FT.
PROPOSED TREES 5,894 / 250 = 24 TREES	24 TREES	24 TREES
TOTAL REQUIRED INTERIOR LANDSCAPE AREA BIO SWALE 5,894 SQ.FT. x 50% = 2,947	2,947 SQ.FT.	3,185 SQ.FT.

INTERIOR LANDSCAPE PLANT LIST: XX / XX

TREES:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
2	RED BUD	CERCIS CANADENSIS	3" CAL. B&B	RB
8	SKYLINE LOCUST	GLEDITSIA T. INERMIS 'SKYCOLE'	3" CAL. B&B	LO
7	DAWN REDWOOD	METASEQUOIA GLYPTOSTROBOIDES	8' HT. B&B	DW
2	ROBIN HILL SERVICEBERRY	AMELANCHIER X 'ROBIN HILL'	3" CAL. B&B	SB
5	RED OAK	QUERCUS RUBRA	3" CAL. B&B	RO

R.O.W. BUFFER PLANT LIST: XXX / X

SHRUBS:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
33	BLUE DANUBE JUNIPER	JUNIPERUS S. 'BLUE DANUBE'	3 GAL. POT	JUN
4	HONEY ROSE HONEYSUCKLE	LONICERA KOROLKOWII 'HONEY ROSE'	3 GAL. POT	LOC
11	CENTER GLOW NINEBARK	PHYSOCARPUS OPULIFOLIUS	5 GAL. POT	NIN
78	SHASTA DOUBLEFILE VIBURNUM	VIBURNUM P.T. 'SHASTA'	5 GAL. POT	SBV

TREES:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
4	RED MAPLE	ACER RUBRUM 'OCTOBER GLORY'	3" CAL. B&B	RM
14	WHITE SPRUCE	PICEA GLAUCA	8' HT. B&B	CS

REFUSE / TRANSFORMER SCREEN PLANTS: XXX / X

SHRUBS:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
15	SKYROCKET JUNIPER	JUNIPERUS S. 'SKYROCKET'	4-5' HT.	JUN
20	MUGO PINE	PINUS MUGO PUMILIO	2' WIDE / HT.	DMP
17	BLUE NOOTKA CYPRESS	CHAMAECYPARIS NOOTKATENSIS 'GLAUCA'	2' WIDE / HT.	CYP

PUBLIC STREET TREES PLANT LIST: X / X

TREES:

NO.	COMMON NAME	BOTANICAL NAME	SIZE	SYMBOL
4	JAPANESE LILAC TREE	SYRINGA RETICULATA SUBSP. RETICULATA	3" CAL. B&B	JUN

STREET TREE ESCROW CALCULATIONS:

$1.30 PER LF OF STREET FRONTAGE 264 LF X $1.30 = $343.20 STREET TREE ESCROW AMOUNT

CANOPY LOSS FEE CALCULATIONS:

TOTAL CALIPER IN. OF STREET TREES REMOVED - TOTAL CALIPER IN. OF STREET TREES PROPOSED X $194
24 IN. REMOVED - 12 IN. PROPOSED x $194 = $2,328.00 CANOPY LOSS FEE

LEGEND:

- LIMITS OF GRADING LINE -
- SNOW FENCE -
- 10' MINIMUM CRITICAL ROOT ZONE - (ALL REGULATED TREES)
- VEHICULAR USE AREA PERIMETER -
- PUBLIC STREET TREE REMOVED (ALL REGULATED TREES)
- INTERIOR LANDSCAPE ISLANDS -
- BIO SWALE AREA -

CRITERIA FOR LANDMARK TREES IN THE CITY OF ANN ARBOR:

12" CHERRY; 16" HICKORY, LOCUST, MAPLE, & OAK;
8" CEDAR; 18" ELM, PINE, SPRUCE, & WALNUT.

NOT TO BE USED AS CONSTRUCTION DRAWINGS

SCALE: 1" = 30'

giffels webster

Engineers
Surveyors
Planners
Landscape Architects

1025 East Maple Road
Suite 100
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Executive:	MP
Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	25
	T-2-S R-5-E

Professional Seal:

STATE OF MICHIGAN
MARK JON HANSEN
LANDSCAPE ARCHITECT
No. 1279
REGISTERED LANDSCAPE ARCHITECT

811 Know what's below. Call before you dig.

DATE:	ISSUE:
02.25.2019	OWNER REVIEW
02.28.2019	SUBMITTAL
08.22.2019	SUBMITTAL
12.06.2019	SUBMITTAL
01.27.2020	SUBMITTAL
02.28.2020	SUBMITTAL
04.01.2020 04.07.2020	INTERIM SUBMITTAL REVISED L1 SUBMITTAL

Developed For:

ANN ARBOR BEST HOSPITALITY, INC.

31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071

(248) 281-4168

LANDSCAPE PLAN

2800 JACKSON AVENUE HOTELS

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	08.29.2018
Scale:	1"=30'
Sheet:	L1
Project:	19452.00

PLANT NOTES:

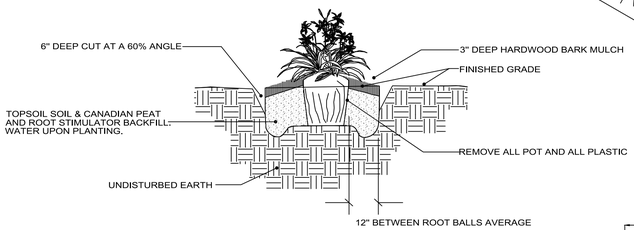
1. PLANT MATERIALS SHALL BE SOUND, HEALTHY, VIGOROUS, FREE FROM PLANT DISEASES AND INSECTS OR THEIR EGGS, AND SHALL HAVE NORMAL, HEALTHY ROOT SYSTEMS. CALIPER MEASUREMENTS SHALL BE TAKEN 6" ABOVE THE GROUND LEVEL. ALL OTHER MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z-60.1 + A300 2004.)
2. PLANTING BED SOIL FOR ANNUALS SHALL BE SCREENED TOPSOIL. TO DETER WEED GROWTH DURING THE ESTABLISHMENT OF ANNUAL & PERENNIAL BED, APPLY A PRE-EMERGENT ('PREEN' OR EQUAL) AFTER PLANTING ANNUALS, 2-3 TIMES PER GROWING SEASON, AT A RATE AS PER RECOMMENDATION OF PRODUCT MANUFACTURER.
3. PLANTING POCKETS SHALL BE NO DEEPER THAN THE HEIGHT OF THE ROOT BALL, SAUCER SHALL BE MADE ON THE EDGES OF PLANTING POCKET.
4. ALL TREE WRAP SHALL BE REMOVED UPON PLANTING.
5. MULCH SHALL BE SHREDDED HARDWOOD BARK, FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF PLANTING BEDS AND INDIVIDUAL TREE PLANTINGS.
6. TREES SHALL BE MULCHED WITH MIN. 3" DEEP HARDWOOD BARK MULCH
7. GRASS SEED SHALL BE CERTIFIED TURF GRASS SEED COMPLYING WITH A.S.P.A. SPECIFICATIONS, AND FREE OF WEED SEEDS AND UNDESIRABLE NATIVE GRASSES. SEEDED AREAS SHALL NOT BE PERMITTED TO DRY OUT. ALL LAWN AREAS SHALL BE FERTILIZED AND WATERED AS REQUIRED DURING THE FIRST GROWING AROUND PLANTS. SEASON TO MAINTAIN A DENSE AND VIGOROUS GROWING LAWN.
8. PLANTS SHALL BE GUARANTEED FOR TWO COMPLETE GROWING SEASON (24 MONTHS). DEAD MATERIALS SHALL BE REPLACED AS NEEDED PRIOR TO THE EXPIRATION OF THE GUARANTEE PERIOD, IN ACCORDANCE WITH THE LOCAL ORDINANCE REQUIREMENTS.
9. CONTRACTOR SHALL PROVIDE IN WRITING A LIST OF RECOMMENDED MAINTENANCE PROCEDURES FOR THE FIRST TWO GROWING SEASON.
10. REMOVE TOP 1/3 OF BURLAP ON ROOT BALL OR ALL IF WRAPPED IN PLASTIC COVERING AND/OR ALL NYLON CORD.
11. PLANT MATERIALS SHALL BE USED IN COMPLIANCE WITH THE PROVISIONS OF THE LOCAL ORDINANCE AND SHALL BE NURSERY GROWN, FREE OF PESTS AND DISEASES, HARDY IN THIS COUNTY, IN CONFORMANCE WITH THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN, AND SHALL HAVE PASSED INSPECTIONS REQUIRED UNDER STATE REGULATIONS, IN ADDITION, PLANT MATERIALS SHALL CONFORM TO THE STANDARDS OF COUNTY COOPERATIVE EXTENSION SERVICE.

LANDSCAPE CONTRACTOR'S "TWO-YEAR IRRIGATION REQUIREMENT PERIOD"

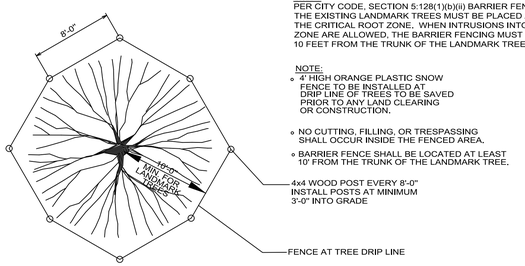
IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO PROGRAM AND PERIODICALLY ADJUST THE IRRIGATION SYSTEM (PROVIDED BY OTHERS) AS REQUIRED TO INSURE DELIVERY OF PROPER AND ADEQUATE WATER SUPPLY TO ALL PLANT MATERIALS, AND SEEDED LAWN AREAS (SERVICED BY THE IRRIGATION SYSTEM) TO INSURE THE ESTABLISHMENT OF HEALTHY PLANT MATERIALS AND LAWNS FOR THEIR FIRST YEAR OF GROWTH. FOLLOWING THE LANDSCAPE CONTRACTOR'S "TWO-YEAR IRRIGATION REQUIREMENT PERIOD", THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH A SUGGESTED "IRRIGATION MAINTENANCE SCHEDULE" FOR THEIR USE.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ANN ARBOR.
2. ALL AREAS NOT BUILT, LANDSCAPED, OR PAVED UPON SHALL BE SEEDED OR SODDED. TERRA SEED SYSTEM OR APPROVED EQUAL IS ENCOURAGED.
3. ALL LAWN AREAS SHALL BE IRRIGATED WITH AN UNDERGROUND, AUTOMATIC IRRIGATION SYSTEM.IRRIGATION HEADS SHALL BE PLACED SUCH THAT WATER WILL NOT HIT ANY HARD STRUCTURES OR SURFACES.
4. TWO YEAR GUARANTEE PERIOD BEGINS AT FINAL INSPECTION OF LANDSCAPE MATERIAL BY THE CITIES REPRESENTATIVE A LANDSCAPE ARCHITECT OR NURSERYMAN, AND PRIOR TO THE AUTHORIZATION OF THE OCCUPANCY PERMIT. THIS IS THE FIRST OF TWO REQUIRED CITY INSPECTIONS OF THE LANDSCAPE PLAN INSTALLATION.
5. BUILDING DEPARTMENT WILL NOT RELEASE CONSTRUCTION BONDS UNTIL CITY APPROVED LANDSCAPE ARCHITECT OR NURSERYMAN HAS INSPECTED THE SITE AND APPROVED THE INSTALLATION OF LANDSCAPE PLANS. FINAL BOND WILL NOT BE RELEASED UNTIL THE TWO YEAR GUARANTEE EXPIRES AND FINAL INSPECTION IS MADE.
6. OWNER IS THEN RESPONSIBLE FOR CARE AND MAINTAINCE OF ALL PLANTS UPON RETURN OF BONDS, ALL PLANT MATERIAL IS TO BE MAINTAINED FOR THE NATURAL LIFE OF THE PLANT. NO REMOVAL OF ANY PLANT MATERIAL IS PERMITTED WITHOUT REPLACEMENT.
7. APPLICATIONS OF FERTILIZER BYOND THE INITIAL TOPSOIL AND SEEDING SHALL BE A FERTILIZER WITH NO PHOSPORUS.
8. ALL DISEASED DAMAGED, OR DEAD MATERIAL SHOWN ON THE SITE PLAN SHALL BE REPLACED BY BY THE FOLLOWING GROWING SEASON (THE INTENT IS THAT THIS BE DINE BY THE OWNER IN PERPETUITY.



PERENNIAL DETAIL
NO SCALE

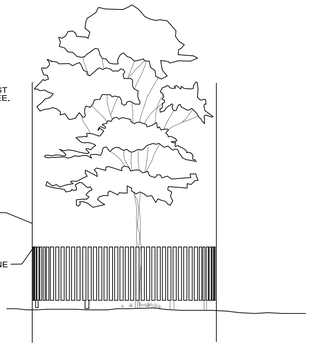


NOTE:
PER CITY CODE, SECTION 5:128(1)(b)(ii) BARRIER FENCING TO PROTECT THE EXISTING LANDMARK TREES MUST BE PLACED AT THE PERMETER OF THE CRITICAL ROOT ZONE. WHEN INTRUSIONS INTO THE CRITICAL ROOT ZONE ARE ALLOWED, THE BARRIER FENCING MUST BE LOCATED AT LEAST 10 FEET FROM THE TRUNK OF THE LANDMARK TREES AT ALL POINTS.

NOTE:
- 4' HIGH ORANGE PLASTIC SNOW FENCE TO BE INSTALLED AT DRIP LINE OF TREES TO BE SAVED PRIOR TO ANY LAND CLEARING OR CONSTRUCTION.
- NO CUTTING, FILLING, OR TRESPASSING SHALL OCCUR INSIDE THE FENCED AREA.
- BARRIER FENCE SHALL BE LOCATED AT LEAST 10' FROM THE TRUNK OF THE LANDMARK TREE.

4x4 WOOD POST EVERY 8'-0" INSTALL POSTS AT MINIMUM 3'-0" INTO GRADE

FENCE AT TREE DRIP LINE

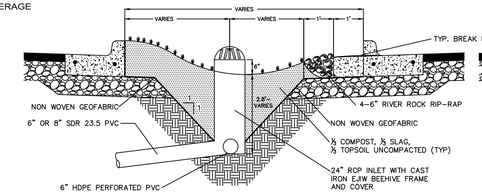


TREE PROTECTION DETAIL
NO SCALE

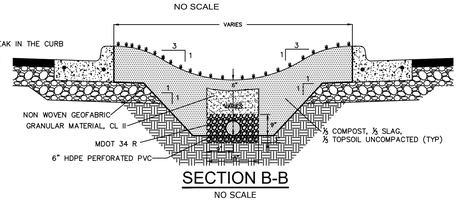
LAWN SEED MIX:

30% PERENNIAL RYGRASS
20% PARK KENTUCKY BLUEGRASS
45% CREEPING RED FESCUE
5% ANNUAL RYEGRASS

4#/1000 S.F. SEEDING RATE



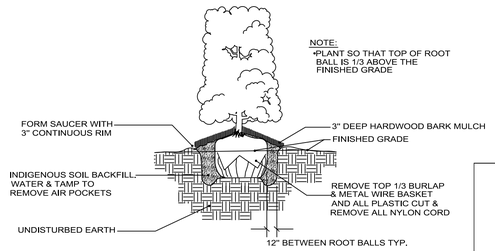
SECTION A-A
NO SCALE



SECTION B-B
NO SCALE

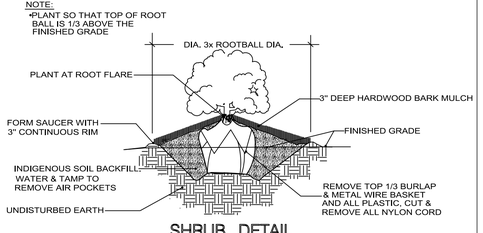
PARKING LOT BIO SWALE
NTS

NOTE:
•PLANT SO THAT TOP OF ROOT BALL IS 1/3 ABOVE THE FINISHED GRADE

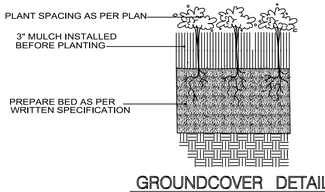


HEDGE DETAIL
NO SCALE

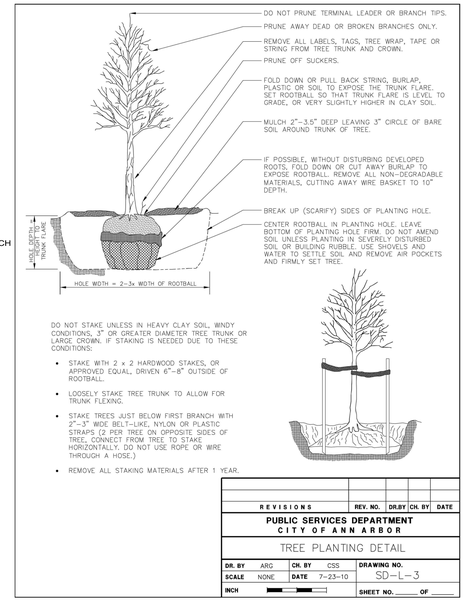
NOTE:
•PLANT SO THAT TOP OF ROOT BALL IS 1/3 ABOVE THE FINISHED GRADE



SHRUB DETAIL
NO SCALE



GROUNDCOVER DETAIL
NO SCALE



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

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

TREE PLANTING DETAIL

DR. BY	ARG	CH. BY	CSS
SCALE	NONE	DATE	7-23-10
INCH		DRAWING NO.	SD-L-3
		SHEET NO. ____ OF ____	

EXISTING TREE INVENTORY:

TAG #	SIZE	COMMON NAME	LATIN NAME	REC.	COND.
53647	11"	Austrian Pine	Pinus nigra	Save	Fair
53648	11"	Austrian Pine	Pinus nigra	Save	Fair
53649	12"	Austrian Pine	Pinus nigra	Save	Fair
53650	12"	Austrian Pine	Pinus nigra	Save	Fair
53652	7"	Bradford Pear	Pyrus calleryana	Save	Fair
53653	7"	Bradford Pear	Pyrus calleryana	Save	Fair
53653b	12"	Red Oak	Quercus Rubra	Save	Good
53656	13"	Red Oak	Quercus Rubra	Remove	Good
53657	13"	Red Oak	Quercus Rubra	Save	Good
53658	11"	Red Oak	Quercus Rubra	Remove	Good
53659	10"	Honey Locust	Gleditsia triacanthos in.	Save	Good
53660	8"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53661	10"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53662	9"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53663	6" MS	American Basswood	Tilia americana	Remove	Good
53664	13"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53665	8"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53666	9"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53667	7"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53668	6"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53669	6"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53670	7"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53671	6"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53672	10"	Honey Locust	Gleditsia triacanthos in.	Remove	Good
53673	12"	Sugar Maple	Acer saccharum	Save	Good
53674	11"	Austrian Pine	Pinus nigra	Save	Fair
53675	9"	Austrian Pine	Pinus nigra	Save	Fair
53676	9"	Austrian Pine	Pinus nigra	Save	Fair
53677	12"	Austrian Pine	Pinus nigra	Save	Fair
53678	15"	Sugar Maple	Acer saccharum	Save	Good
53679	9"	Austrian Pine	Pinus nigra	Save	Fair
53680	13"	Sugar Maple	Acer saccharum	Save	Good
53681	11"	Sugar Maple	Acer saccharum	Save	Good
53682	12"	Austrian Pine	Pinus nigra	Save	Fair
53683	12"	Sugar Maple	Acer saccharum	Save	Good
53684	12"	Austrian Pine	Pinus nigra	Save	Fair
53685	13"	Sugar Maple	Acer saccharum	Save	Good
53686	13"	Sugar Maple	Acer saccharum	Save	Good
53687	13"	Sugar Maple	Acer saccharum	Save	Good
53688	11"	Austrian Pine	Pinus nigra	Save	Fair
53689	11"	Austrian Pine	Pinus nigra	Save	Fair
53690	15"	Sugar Maple	Acer saccharum	Remove	Good
53691	12"	Sugar Maple	Acer saccharum	Remove	Good
53692	10" MS	Sugar Maple	Acer saccharum	Save	Good
53693	12"	Sugar Maple	Acer saccharum	Save	Good
53694	14"	Sugar Maple	Acer saccharum	Save	Good
53695	10"	Sugar Maple	Acer saccharum	Save	Good
53696	7"	Sugar Maple	Acer saccharum	Save	Good
53697	7"	Sugar Maple	Acer saccharum	Save	Good
53698	8"	Sugar Maple	Acer saccharum	Save	Good
53700	14"	Sugar Maple	Acer saccharum	Save	Good
53701	9"	Sugar Maple	Acer saccharum	Save	Good
53702	12"	Sugar Maple	Acer saccharum	Save	Good
53703	13"	Sugar Maple	Acer saccharum	Save	Good
53704	13"	Sugar Maple	Acer saccharum	Remove	Good
53705	13"	Sugar Maple	Acer saccharum	Save	Good
53706	14"	Sugar Maple	Acer saccharum	Remove	Good
53707	7"	Sugar Maple	Acer saccharum	Remove	Good
53708	14"	Sugar Maple	Acer saccharum	Remove	Good
53709	11"	Sugar Maple	Acer saccharum	Remove	Good
53710	7" MS	Kwanzan Flowering Cherry	Prunus serrulata 'Kwanzan'	Remove	Fair
53711	15" MS	Sugar Maple	Acer saccharum	Save	Good
53712	7"	Sugar Maple	Acer saccharum	Save	Good
53713	10"	Sugar Maple	Acer saccharum	Save	Good
53714	14"	Sugar Maple	Acer saccharum	Save	Good
53715	14"	Sugar Maple	Acer saccharum	Save	Good
53716	14"	Austrian Pine	Pinus nigra	Save	Fair
53718	14"	Austrian Pine	Pinus nigra	Save	Fair
53719	14"	Austrian Pine	Pinus nigra	Save	Fair
53720	12" MS	Austrian Pine	Pinus nigra	Save	Fair
53722	12"	Austrian Pine	Pinus nigra	Save	Fair
53723	11"	Austrian Pine	Pinus nigra	Save	Fair
53724	15"	Austrian Pine	Pinus nigra	Save	Fair
53725	15" MS	American Elm	Ulmus americana	Save	Good
80579	11"	Austrian Pine	Pinus nigra	Save	Fair
80580	13"	Austrian Pine	Pinus nigra	Save	Fair
80581	10"	Austrian Pine	Pinus nigra	Save	Fair
80582	12"	Sugar Maple	Acer saccharum	Save	Good
80583	12"	Austrian Pine	Pinus nigra	Save	Fair
80584	12"	Austrian Pine	Pinus nigra	Save	Fair
80586	12"	Austrian Pine	Pinus nigra	Save	Fair
80587	12"	Austrian Pine	Pinus nigra	Save	Fair
80590	12"	Austrian Pine	Pinus nigra	Save	Fair
80591	11"	Austrian Pine	Pinus nigra	Save	Fair
80592	10"	American Elm	Ulmus americana	Save	Fair
80593	10"	Austrian Pine	Pinus nigra	Save	Fair
80594	12"	Austrian Pine	Pinus nigra	Save	Fair
80595	12"	Austrian Pine	Pinus nigra	Save	Fair
80596	11"	Austrian Pine	Pinus nigra	Save	Fair
80597	12"	Scots pine	Pinus sylvestris	Save	Fair
80598	11"	Austrian Pine	Pinus nigra	Save	Fair
80599	13"	Austrian Pine	Pinus nigra	Save	Fair
80600	11"	Austrian Pine	Pinus nigra	Save	Fair
82307	4"	Elm	Ulmus americana	Remove	Good
82308	15"	Pin Oak	Quercus palustris	Save	Good
82309	6"	American Basswood	Tilia americana	Remove	Good
82310	9" MS	American Basswood	Tilia americana	Remove	Good
53682b	12"	Sugar Maple	Acer saccharum	Save	Good

BIOSWALE SEED MIX:

10 pounds per Acre

Proposed Seed Mix:

Temporary Cover:

Common Name	Scientific Name	Color	Bloom Time	Oz./Acre
Seed Oats	Avena sativa	-	-	360
Annual Rye	Lolium perenne	-	-	100

Forbs:

Common Name	Scientific Name	Color	Bloom Time	Oz./Acre
New England Aster	Aster novae-angliae	Purple	August-Oct.	2
Partridge Pea	Cassia fasciculata	Yellow	July	3
Sand Coreopsis	Coreopsis lanceolata	Yellow	June-July	3
Purple Coneflower	Echinacea purpurea	Pink	July	3
False Sunflower	Heliopsis helianthoides.	Yellow	July-Sept.	3
Rough Blazing Star	Liatris x nieuwlandii	Purple	July-Oct.	2
Yellow Coneflower	Ratibida pinnata	Yellow	July	3
Black-Eyed Susan	Rudbeckia hirta	Yellow	June-Sept.	4

Grasses:

Common Name	Scientific Name	Oz./Acre
Little Bluestem Grass	Schizachyrium scoparium	24
Side Oats	Bouteloua curtipendula	18
Canada Wild Rye	Elymus Canadensis	16
Indian Grass	Sorghastrum nutans	22
Switch Grass	Panicum virgatum	2

NATIVE SEEDING SPECIFICATION GUIDELINES

1. QUALITY ASSURANCE

A. Installation contractors
The seeding contractor should have at least three years experience with native planting and should have successfully performed at least five native planting projects similar in size and scope to the current project. The contractor should provide an on-site supervisor experienced in native planting with a minimum 4 year degree in natural resources, biology, or related field. To obtain qualified bids, the submittal should include a statement of contractor's qualifications including project summaries with contact names and information, and resumes of field installation personnel who will be working on the project.

B. Seed materials
Native seed should be obtained from sources within the same EPA Level III Ecoregion as the project site. If the desired species are not available from the same ecoregion, seek materials from an adjacent region, preferably to the west or east. For more information, see the EPA website at:

http://www.epa.gov/wed/pages/ecoregions/level_iii.htm

Seed amounts should be specified as PLS (pure live seed). Actual amounts used on the project will vary with the actual percent of PLS of the seedlot. Seed supplied to the site should be tagged with seed species, weights, documentation of PLS testing and, if required, adjustment of the seed weights to provide the amount of pure live seed specified.

Seed must be shipped, stored and handled in a manner that will insure protection from moisture, heat, or other conditions that would jeopardize viability or cause germination before installation.

Species substitutions shall be approved by the project designer with input from a restoration ecologist if necessary. All native seed mixes should be applied with 10 lb/acre annual rye and 30 lb/acre seed oats as a nurse crop. Do not allow perennial rye or wheat to be used as a nurse crop.

2. SEASONAL CONSIDERATIONS

Optimal native seeding time is October 1 through March 31 to allow repeat freeze-thaw cycles to incorporate the seed into the substrate and provide cold stratification to break seed dormancy. Seeding during other times of year is acceptable, but delayed or reduced germination of some species can be expected.

3. CONSTRUCTION REQUIREMENTS

Installation methods for planting natives which are newly excavated and graded must differ from methods used on vegetated sites or on creation of berms, etc. Usually native areas that are excavated into hard, nutrient-poor subsoil require amendment with topsoil to create conditions conducive to plant growth.

A. Vegetated sites
Existing grass and weeds should be killed with applications of glyphosate-based herbicide. Sites vegetated with certain species such as reed canary grass (*Phalaris arundinacea*) or canada thistle (*Cirsium arvense*) often require two or more applications at 2-3 week intervals to kill resprouts and seedlings from the seed bank. Areas of tall or dense vegetation should then be mowed to a height of 6", or burned. More sparsely vegetated sites can be drill seeded through the existing dead vegetation. Sites containing woody growth may require different herbicides for an effective kill.

B. Graded sites
It is important to avoid soil compaction in planting zones as much as possible. Equipment access and travel should be routed around all planting areas, and repeat passes over the same area should be limited during all grading, topsoil application, and decompaction work. Equipment having low unit pressure ground contact should be utilized whenever possible.

All planting areas should have a minimum of 6 inches of topsoil (as specified below under "Acceptable topsoil"). Areas deficient in topsoil or with inferior quality topsoil and all areas which have been excavated into subsoil shall be amended by the following process:
- Over excavate to 6 inches below the final elevations shown on plans.
- Check the compaction density of the subsoil according to the parameters listed below under "Measuring and correcting soil compaction". Decompact if necessary.
- Apply 2-3 inches of topsoil (as specified below under "Acceptable topsoil")
- Incorporate the topsoil with the subsoil by ripping, tilling, discing, or other method.
- Apply and spread evenly sufficient topsoil to achieve the final grades specified in the plans within a tolerance of +/- 0.25 feet. After final application of topsoil, measure soil compaction again as specified below and decompact as necessary.
- After decompaction, the surface should be prepared for seeding by any method which leaves the upper 2-3 inches broken down into a fine-particle seedbed with no clods or larger than 3" diameter. The final graded surface should conform to the elevations shown in the plans to +/- 0.25 foot. A smooth, uniform surface is not required for wetland seeding and surface irregularities actually enhance planting diversity. The seedbed must not be too soft or seed may become buried too deep. As a test, if adult human footsteps in the seedbed average more than ½ inch deep, the seedbed should be cultipacked or rolled to create a firmer surface.

ACCEPTABLE TOPSOIL
Acceptable topsoil shall consist of loose friable loam, free of heavy clay, refuse, stumps and large roots, rocks over 2 inches in diameter, brush, weeds and weed seeds, or other material which would be detrimental to the proper development of vegetative growth. Topsoil shall contain 3 to 5 percent organic matter by test. Hydric soils removed from another natural areas are preferred, but not mandatory.

MEASURING AND CORRECTING SOIL COMPACTION
Compaction must be measured and corrected in the subsoil before application of topsoil, and again in the topsoil itself after application of the full 6 inches. Measure compaction in the subgrade before topsoil application with a Dickey-John (Trade name) soil compaction tester, or equal, to a depth of 12 inches. One sample should be taken per 400 square feet (every 20 feet). If readings average greater than 250 psi, the soil must be ripped, disced, or otherwise loosened to a depth of at least 12 inches until compaction readings average below 250 psi to provide proper conditions for plant root growth. Measure compaction again in the topsoil after application to final grades and correct if necessary. Minimize compaction during all operations by utilizing equipment having low unit pressure ground contact and by limiting repeat passes over the same areas.

4. PLANTING

A. Dry seeding
Site seeding should be performed if possible while the site is dry during periods on normal dry-down. Be cautious about using tractor-drawn seeding equipment if the wetland is not entirely dry and able to support the weight of such equipment.

BROADCAST SEEDING
Broadcast seeding is preferred over drill seeding on graded, bare soil sites. Apply the seed uniformly over the surface using a combination seeder/cultipacker unit such as a Brillion or Truax Trillion seeder. The Trillion seeder is preferred as it is designed to handle native seeds without plugging.

A cone seeder or other similar broadcasting equipment may also be used if the seed mix does not contain fluffy seeds in amounts sufficient to prevent free flowing without plugging. Seed should then be pressed into the surface using a cultipacker or roller.

DRILL SEEDING
A rangeland-type no-till drill designed to plant native grasses and forbs may be used in bare soils or for planting through existing vegetation. Cultipacking or rolling before seeding may be required to prevent seed placement depths exceeding ¼ inch, but cultipacking or rolling after seeding is not required.

B. Wet Seeding
If it is not possible to seed the site during a dry time, seed may be broadcast directly upon saturated or moist soil surfaces only using ATV-mounted cone seeders. If conditions do not allow ATV access, hand application of seed by experienced personnel is necessary. Do not apply seed to open water, ice, or snow.

All seeding equipment, whether broadcast or drill, must be calibrated to deliver the seed at the rates and proportions specified in the plans. Equipment shall be operated in such a manner as to ensure complete coverage of the entire area to be seeded, and seed must be placed no deeper than ¼ inch in the soil. No fertilizers or soil conditioners will be required or allowed.

5. IRRIGATION

After seeding, adjust water controls to place approximately one inch of water over the seeded area and maintain until seed has germinated. Water controls may then be raised in proportion to plant height. Water levels should be maintained at depths of from 1" to ½ the average height of the growing native plants. Water level may be set to normal pool elevation after wetland vegetation has fully matured as determined by the project designer with input from a restoration ecologist.

NOT TO BE USED AS CONSTRUCTION DRAWINGS

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Manager:	AW
Designer:	AW
Quality Control:	MP
Section:	25
	T-2-S R-5-E

Professional Seal:

STATE OF MICHIGAN
MARK JON HANSEN
LANDSCAPE ARCHITECT
No. 1278
REGISTERED LANDSCAPE ARCHITECT

811
Know what's below. Call before you dig.

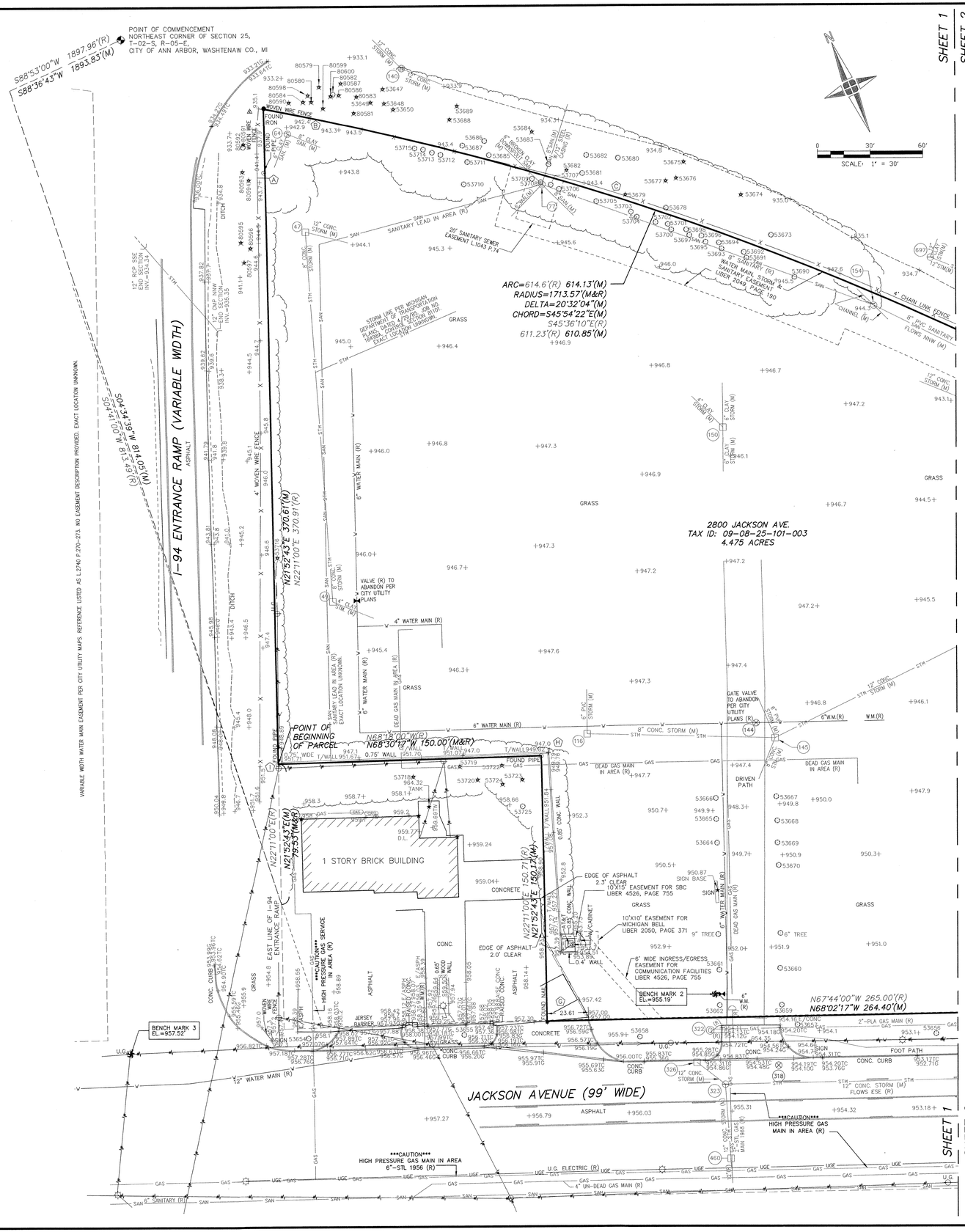
DATE:	ISSUE:
12.19.2018	REZONING
01.30.2019	SUBMITTAL
02.25.2019	OWNER REVIEW
02.28.2019	SUBMITTAL
08.22.2019	SUBMITTAL
12.06.2019	SUBMITTAL
01.27.2020	SUBMITTAL
02.28.2020	SUBMITTAL

Developed For:

ANN ARBOR BEST HOSPITALITY, INC.
31100 STEPHENSON HWY.
MADISON HEIGHTS, MI 48071
(248) 281-4168

LANDSCAPE DETAILS
2800 JACKSON AVENUE HOTELS
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	08.29.2018
Scale:	1"=30'
Sheet:	L2
Project:	19452.00



BENCH MARK DATA

(CITY OF ANN ARBOR NAVD88) DATUM

SITE BENCH MARK NO. 1
CHISELED "X" ON TOP OF A NORTH-SIDE LIGHT POLE'S CONCRETE BASE, LOCATED ON THE NORTHWEST CORNER OF THE PARKING LOT FOR BUILDING NO. 2740.
ELEVATION: 946.65'
(SHOWN GRAPHICALLY)

SITE BENCH MARK NO. 2
ARROW ON HYDRANT (2009), LOCATED ON THE NORTHWEST CORNER OF THE DRIVEWAY APPROACH FOR ADDRESS 2800 JACKSON AVENUE, PLUS OR MINUS 300 FEET EAST OF I-94 ENTRANCE RAMP.
ELEVATION: 955.19'
(SHOWN GRAPHICALLY)

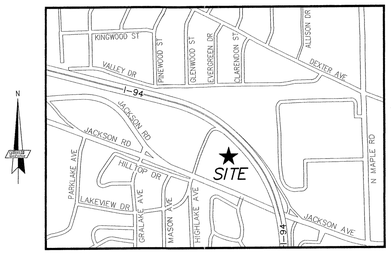
SITE BENCH MARK NO. 3
MAG NAIL ON THE SOUTHERLY FACE OF A LIGHT POLE, LOCATED ON THE NORTHWEST CORNER OF JACKSON AVENUE AND THE I-94 EAST ENTRANCE RAMP.
ELEVATION: 957.52'
(SHOWN GRAPHICALLY)

NOTES:

- TELEPHONE, CABLE TV, STEAM, PUBLIC LIGHTING, AND UTILITY MAPS WERE NOT AVAILABLE AT TIME OF SURVEY.
- TREE SIZES AND SPECIES ARE THE BEST ESTIMATION OF THE FIELD SURVEYOR SPECIFIC QUESTIONS REGARDING INDIVIDUAL TREES SHOULD BE DIRECTED TO A QUALIFIED FORESTER.
- THE BASIS OF BEARING FOR THE PROPERTY DESCRIPTION OVERALL PARCEL AS FIELD SURVEYED IS BASED ON STATE PLANE COORDINATE SYSTEM NAD83 MICHIGAN SOUTH ZONE.
- SEE SHEET 2 FOR STRUCTURE OF STRUCTURES.
- AN AS-FIELD SURVEY DESCRIPTION WAS PROVIDED DUE TO THE CONFLICTS OF MEASURED DISTANCES VERSES RECORD DIMENSIONS. THE AS-FIELD SURVEY DESCRIPTION COVERS THE SAME LAND DESCRIBED IN THE TITLE COMMITMENT.

TABLE OF ENCROACHMENTS

A	4' WOVEN WIRE FENCE, 5.8' WEST OF LINE
B	4' WOVEN WIRE FENCE, 0.4' NORTH OF LINE
C	4' WOVEN WIRE FENCE, 2.3' NORTH OF LINE
D	4' WOVEN WIRE FENCE, 3.0' NORTH OF LINE
E	4' WOVEN WIRE FENCE, 1.5' NORTH OF LINE
F	CONCRETE CURB IS 0.4' WEST OF LINE
G	ASPHALT DRIVE IS 23.6' WEST OF LINE
H	8" WIDE WALL IS 1.3' NORTH OF LINE & 3.9' EAST OF LINE AT CORNER
I	8" WIDE WALL IS 0.2' NORTH OF LINE & 1.7' EAST OF LINE AT CORNER



LOCATION MAP
(NOT TO SCALE)

PROPERTY DESCRIPTION

(PER TITLE COMMITMENT NO. O-0000387644432, PREPARED BY STEWART TITLE GUARANTY COMPANY, DATED FEBRUARY 21, 2017)

COMMENCING AT THE NORTHEAST CORNER OF SECTION 25, T2S, R5E, SCIO TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE ALONG THE NORTH LINE OF SECTION 25, SOUTH 88°53' WEST 1897.96 FEET; THENCE SOUTH 4° 41' WEST 813.49 FEET TO A POINT ON THE EAST LINE OF AN I-94 EXPRESSWAY RAMP; THENCE ALONG THE EAST LINE, NORTH 22°11' EAST 79.53 FEET FOR A PLACE OF BEGINNING; THENCE CONTINUING NORTH 22°11' EAST 370.91 FEET; THENCE ALONG THE SOUTHWESTERLY LINE OF THE I-94 RIGHT OF WAY 614.6 FEET IN THE ARC OF A CIRCULAR CURVE CONCAVE TO THE SOUTHWEST, RADIUS 1713.57 FEET, CHORD SOUTH 45°36'10" EAST 611.23 FEET; THENCE SOUTH 22°18' WEST 139.38 FEET; NORTH 67°44' WEST 150.0 FEET; THENCE SOUTH 22° 18' WEST 150.0 FEET; THENCE NORTH 67°44' WEST 265.0 FEET; THENCE NORTH 22°11' EAST 150.17 FEET; THENCE NORTH 68°12' WEST 150.00 FEET TO THE PLACE OF BEGINNING; BEING PART OF THE NORTHEAST 1/4 OF SECTION 25, T2S, R5E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN.

PROPERTY DESCRIPTION

(AS FIELD SURVEYED)

PART OF THE NORTHEAST 1/4 OF SECTION 25, TOWN 2 SOUTH, RANGE 5 EAST, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT SAID NORTHEAST CORNER OF SECTION 25, THENCE SOUTH 88 DEGREES 36 MINUTES 43 SECONDS WEST, 1893.83 FEET; THENCE SOUTH 04 DEGREES 34 MINUTES 39 SECONDS WEST, 814.05 FEET; THENCE NORTH 21 DEGREES 52 MINUTES 43 SECONDS EAST, 79.53 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH 21 DEGREES 52 MINUTES 43 SECONDS EAST, 370.61 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF THE I-94 EXPRESSWAY; THENCE ALONG SAID SOUTHWESTERLY RIGHT OF WAY LINE ALONG A NON-TANGENT CURVE TO THE RIGHT 614.23 FEET, SAID CURVE HAVING A RADIUS OF 1713.57 FEET, A CENTRAL ANGLE OF 20 DEGREES 32 MINUTES 15 SECONDS AND A CHORD BEARING SOUTH 45 DEGREES 54 MINUTES 16 SECONDS EAST, 610.94 FEET; THENCE SOUTH 21 DEGREES 59 MINUTES 43 SECONDS WEST, 139.95 FEET; THENCE NORTH 68 DEGREES 02 MINUTES 17 SECONDS WEST 150.00 FEET; THENCE SOUTH 22 DEGREES 11 MINUTES 29 SECONDS WEST 150.48 FEET; THENCE NORTH 68 DEGREES 02 MINUTES 17 SECONDS WEST 264.40 FEET; THENCE NORTH 21 DEGREES 52 MINUTES 43 SECONDS E 150.17 FEET; THENCE NORTH 68 DEGREES 30 MINUTES 17 SECONDS WEST 150.00 FEET TO THE POINT OF BEGINNING.

SCHEDULE B – II. EXCEPTIONS:

(PER TITLE COMMITMENT NO. O-0000387644432, PREPARED BY STEWART TITLE GUARANTY COMPANY, DATED FEBRUARY 21, 2017)

ITEM 2. – SUBJECT TO EASEMENT FOR PUBLIC UTILITIES IN FAVOR OF CITY OF ANN ARBOR, AS RECORDED IN LIBER 2049, PAGE 190, WASHTENAW COUNTY RECORDS. (SHOWN ON SURVEY)

ITEM 3. – SUBJECT TO EASEMENT IN FAVOR OF MICHIGAN BELL TELEPHONE COMPANY, AS RECORDED IN LIBER 2050, PAGE 371, WASHTENAW COUNTY RECORDS. (SHOWN ON SURVEY)

ITEM 4. – SUBJECT TO EASEMENT IN FAVOR OF MICHIGAN BELL TELEPHONE COMPANY DBA SBC MICHICAN, AS RECORDED IN LIBER 4526, PAGE 755, WASHTENAW COUNTY RECORDS. (SHOWN ON SURVEY)

CERTIFICATION

TO:
- ANN ARBOR BEST HOSPITALITY, INC., A MICHIGAN CORPORATION
- ABSOLUTE TITLE, INC. AS AUTHORIZED AGENT FOR STEWART TITLE GUARANTY COMPANY.
- STEWART TITLE GUARANTY COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES NO TABLE A ITEMS THEREOF. THE FIELDWORK WAS COMPLETED ON FEBRUARY 13, 2019.

DATE OF PLAT OR MAP: JULY 2, 2018.

ANTHONY L. GONZALEZ, MICHIGAN P.S. NO. 56165

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Manager:	C.A.A.
Designer:	S.L.B. / J.A.B.
Quality Control:	A.L.G.
Section:	25
	T-02-S R-05-E

Professional Seal:
STATE OF MICHIGAN
ANTHONY L. GONZALEZ
PROFESSIONAL SURVEYOR
No. 56165
LICENSED PROFESSIONAL SURVEYOR

811 Know what's below. Call before you dig.

DATE:	ISSUE:
2.18.19	UPDATED TO ALTA / NSPS SURVEY
01.27.20	ADDED RECORD SEWER EASEMENT
02.28.20	ADDED RECORD SEWER EASEMENT ON AJDACENT PARCEL

ALTA/NSPS LAND TITLE & TOPOGRAPHIC SURVEY

2800 JACKSON AVE

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	07.02.18
Scale:	1"=30'
Sheet:	1 OF 2
Project:	19452.00

N:\19\19452\00\19452.00 - Ann Arbor - 2800 Jackson\Drawings\ALTA\Ann Arbor Michigan Inn ALTA-Topo 19452.00Revised.dwg

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

(R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.

PRIOR TO THE PLANNED BUILDING IMPROVEMENTS, AND/ OR CONSTRUCTION, THE RESPECTIVE UTILITY COMPANIES MUST BE NOTIFIED TO STAKE THE PRECISE LOCATION OF THEIR UTILITIES.

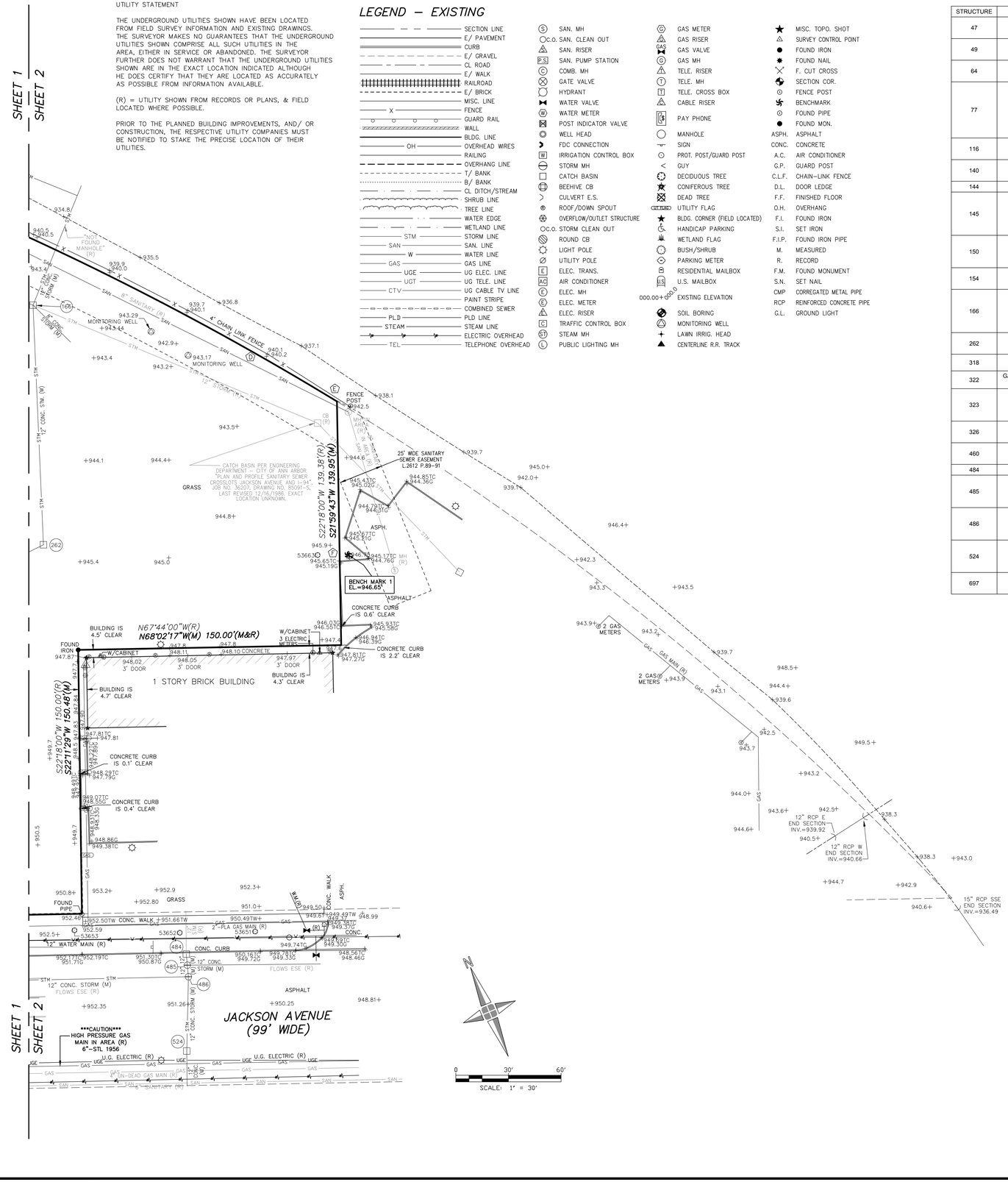
LEGEND – EXISTING

- SECTION LINE
- E/ PAVEMENT
- CURB
- E/ GRAVEL
- CL ROAD
- E/ WALK
- RAILROAD
- E/ BRICK
- MISC. LINE
- X — FENCE
- GUARD RAIL
- WALL
- BLDG. LINE
- OH — OVERHEAD WIRES
- RAILING
- OVERHANG LINE
- T/ BANK
- B/ BANK
- CL DITCH/STREAM
- SHRUB LINE
- TREE LINE
- WATER EDGE
- WETLAND LINE
- STM — STORM LINE
- SAN — SAN. LINE
- W — WATER LINE
- GAS — GAS LINE
- UGE — UG ELEC. LINE
- UGT — UG TELE. LINE
- CTV — UG CABLE TV LINE
- PAINT STRIPE
- COMBINED SEWER
- PLD — PLD LINE
- STEAM — STEAM LINE
- ELECTRIC OVERHEAD
- TEL — TELEPHONE OVERHEAD

- SAN. MH
- C.O. SAN. CLEAN OUT
- SAN. RISER
- P.S. SAN. PUMP STATION
- COMB. MH
- GATE VALVE
- HYDRANT
- WATER VALVE
- WATER METER
- POST INDICATOR VALVE
- WELL HEAD
- FDC CONNECTION
- IRRIGATION CONTROL BOX
- STORM MH
- CATCH BASIN
- BEEHIVE CB
- CULVERT E.S.
- ROOF/DOWN SPOUT
- OVERFLOW/OUTLET STRUCTURE
- C.O. STORM CLEAN OUT
- ROUND CB
- LIGHT POLE
- UTILITY POLE
- E — ELEC. TRANS.
- AC — AIR CONDITIONER
- E — ELEC. MH
- E — ELEC. METER
- ELEC. RISER
- C — TRAFFIC CONTROL BOX
- ST — STEAM MH
- L — PUBLIC LIGHTING MH

- G — GAS METER
- GAS RISER
- GAS VALVE
- G — GAS MH
- TELE. RISER
- T — TELE. MH
- T — TELE. CROSS BOX
- CABLE RISER
- PAY PHONE
- MANHOLE
- SIGN
- PROT. POST/GUARD POST
- GUY
- DECIDUOUS TREE
- CONIFEROUS TREE
- DEAD TREE
- UTILITY FLAG
- BLDG. CORNER (FIELD LOCATED)
- HANDICAP PARKING
- WETLAND FLAG
- BUSH/SHRUB
- PARKING METER
- RESIDENTIAL MAILBOX
- U.S. MAILBOX
- 000.00+000.0 — EXISTING ELEVATION
- SOIL BORING
- MONITORING WELL
- LAWN IRRIG. HEAD
- CENTERLINE R.R. TRACK

- MISC. TOPO. SHOT
- SURVEY CONTROL POINT
- FOUND IRON
- FOUND NAIL
- F. CUT CROSS
- SECTION COR.
- FENCE POST
- BENCHMARK
- FOUND PIPE
- FOUND MON.
- ASPH. ASPHALT
- CONC. CONCRETE
- A.C. AIR CONDITIONER
- G.P. GUARD POST
- C.L.F. CHAIN–LINK FENCE
- D.L. DOOR LEDGE
- F.F. FINISHED FLOOR
- O.H. OVERHANG
- F.I. FOUND IRON
- S.I. SET IRON
- F.I.P. FOUND IRON PIPE
- M. MEASURED
- R. RECORD
- F.M. FOUND MONUMENT
- S.N. SET NAIL
- CMP CORREGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- G.L. GROUND LIGHT



SCHEDULE OF STRUCTURES

STRUCTURE	TYPE	SIZE OF PIPE	RIM	DROP	INVERT	DIRECTION	COMMENTS
47	CATCH BASIN	12" CONC	942.97	-2.80	940.17	SOUTHEAST	
		8" CONC	942.97	-3.00	939.97	SOUTH-SOUTHWEST	
49	CATCH BASIN	8" CONC	944.89	-3.37	941.52	NORTH-NORTHEAST	
		4" CLAY	944.89	-2.26	942.63	SOUTHEAST	
64	SANITARY MANHOLE	8" CLAY	942.74	-4.00	938.74	SOUTHEAST	INVERT PLUS OR MINUS
		6" CLAY	942.74	-3.90	938.84	SOUTHWEST	
77	SANITARY MANHOLE	6" BROKEN CLAY DOWNSPOUT	944.14	-12.80	931.34	NORTH-NORTHWEST	INVERT PLUS OR MINUS
		8"	944.14	-24.20	919.94	NORTH-NORTHEAST	
			944.14	-24.15	919.99	SOUTH-SOUTHEAST	
		6"	944.14	-11.22	932.92	WEST-SOUTHWEST	
116	CATCH BASIN	6" PVC	946.19	-2.60	943.59	NORTH-NORTHEAST	
		8" CONC	946.19	-4.10	942.09	EAST-SOUTHEAST TO 145	INVERT PLUS OR MINUS
140	BEEHIVE CATCH BASIN	12" CONC	932.51	-3.60	928.91	NORTH-NORTHWEST	INVERT PLUS OR MINUS. FULL OF DEBRIS.
			932.51	-3.60	928.91	SOUTHEAST	INVERT PLUS OR MINUS. FULL OF DEBRIS.
144	GATE VALVE	T/VALVE	947.04	-3.19	943.85	NO PIPES VISIBLE	FULL OF DEBRIS
145	CATCH BASIN	8" CONC	946.63	-5.88	940.75	NORTHWEST	
		6" PVC	946.63	-2.70	943.93	NORTH	
		12" CONC	946.63	-6.77	939.86	EAST	
		8" CONC	946.63	-5.88	940.75	SOUTHWEST	
150	CATCH BASIN	4" PVC	945.80	-0.90	944.90	NORTH-NORTHWEST	
		6" CLAY	945.80	-5.88	939.92	NORTH-NORTHEAST	
			945.80	-5.88	939.92	SOUTH-SOUTHWEST	
154	SANITARY MANHOLE	8" PVC	942.81	-7.30	935.51	SOUTHEAST	
		CL/CHANNEL	942.81	-21.85	920.96	SOUTH-SOUTHEAST	FLOWS NORTH-NORTHWEST
166	CATCH BASIN	12" CONC	942.80	-5.90	936.90	NORTHWEST	
			942.80	-6.52	936.28	NORTHEAST	
		8" CONC	942.80	-5.78	937.02	SOUTH-SOUTHEAST	
		12" CONC	942.80	-6.45	936.35	SOUTH-SOUTHWEST	
262	CATCH BASIN	12" CONC	944.75	-7.05	937.70	NORTH-NORTHEAST	
			944.75	-6.40	938.35	WEST-SOUTHWEST	
318	GATE VALVE	T/DEBRIS	954.30	-8.80	945.50	NO VALVE VISIBLE	INVERT PLUS OR MINUS. FULL OF WATER. FULL OF DEBRIS.
322	GAS MANHOLE (MI CONSOLIDATED GAS)	BOTTOM	954.44	-10.82	943.62		
323	STORM MANHOLE	12" CONC	955.01	-3.70	951.31	NORTH-NORTHWEST TO 326	
			955.01	-3.70	951.31	EAST-SOUTHEAST	
			955.01	-3.85	951.16	SOUTH-SOUTHWEST	
326	CATCH BASIN	12" CONC	954.92	-3.35	951.57	SOUTH-SOUTHEAST TO 323	
		BOTTOM	954.92	-5.60	949.32	NO OTHER PIPES VISIBLE	FULL OF WATER
460	CATCH BASIN	12" CONC	954.97	-3.75	951.22	NORTH-NORTHEAST	
		BOTTOM	954.97	-5.75	949.22	NO OTHER PIPES VISIBLE	
484	CATCH BASIN	T/DEBRIS	950.55	-4.80	945.75	NO PIPES VISIBLE	FULL OF WATER. FULL OF DEBRIS.
485	STORM MANHOLE	12" CONC	950.75	-3.65	947.10	NORTH-NORTHEAST TO 484	
			950.75	-4.30	946.45	EAST-SOUTHEAST	
			950.75	-4.50	946.25	SOUTH-SOUTHWEST TO 486	
486	STORM MANHOLE	12" CONC	950.88	-4.15	946.73	NORTH-NORTHEAST TO 485	
			950.88	-4.20	946.68	SOUTH-SOUTHWEST	
			950.88	-4.25	946.63	WEST-NORTHWEST	
524	CATCH BASIN	12" CONC	950.93	-3.43	947.50	NORTH-NORTHEAST TO 486	
			950.93	-3.70	947.23	SOUTH-SOUTHWEST	
		BOTTOM	950.93	-5.85	945.08	NO OTHER PIPES VISIBLE	
697	STORM MANHOLE	12" CLAY	935.07	-7.08	927.99	NORTHEAST	
		12"	935.07	-8.46	926.61	SOUTH-SOUTHEAST	

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Executive:	J.N.R.
Manager:	C.A.A.
Designer:	S.L.B. / J.A.B.
Quality Control:	A.L.G.
Section:	25
	T-02-S R-05-E

Professional Seal:

Know what's below. Call before you dig.

DATE:	ISSUE:
2.18.19	UPDATED TO ALTA / NSPS SURVEY
01.27.20	ADDED RECORD SEWER EASEMENT
02.28.20	ADDED RECORD SEWER EASEMENT ON ADJACENT PARCEL

ALTA/NSPS & TOPOGRAPHIC SURVEY

2800 JACKSON AVE

CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

Date:	07.02.18
Scale:	1"=30'
Sheet:	2 OF 2
Project:	19452.00

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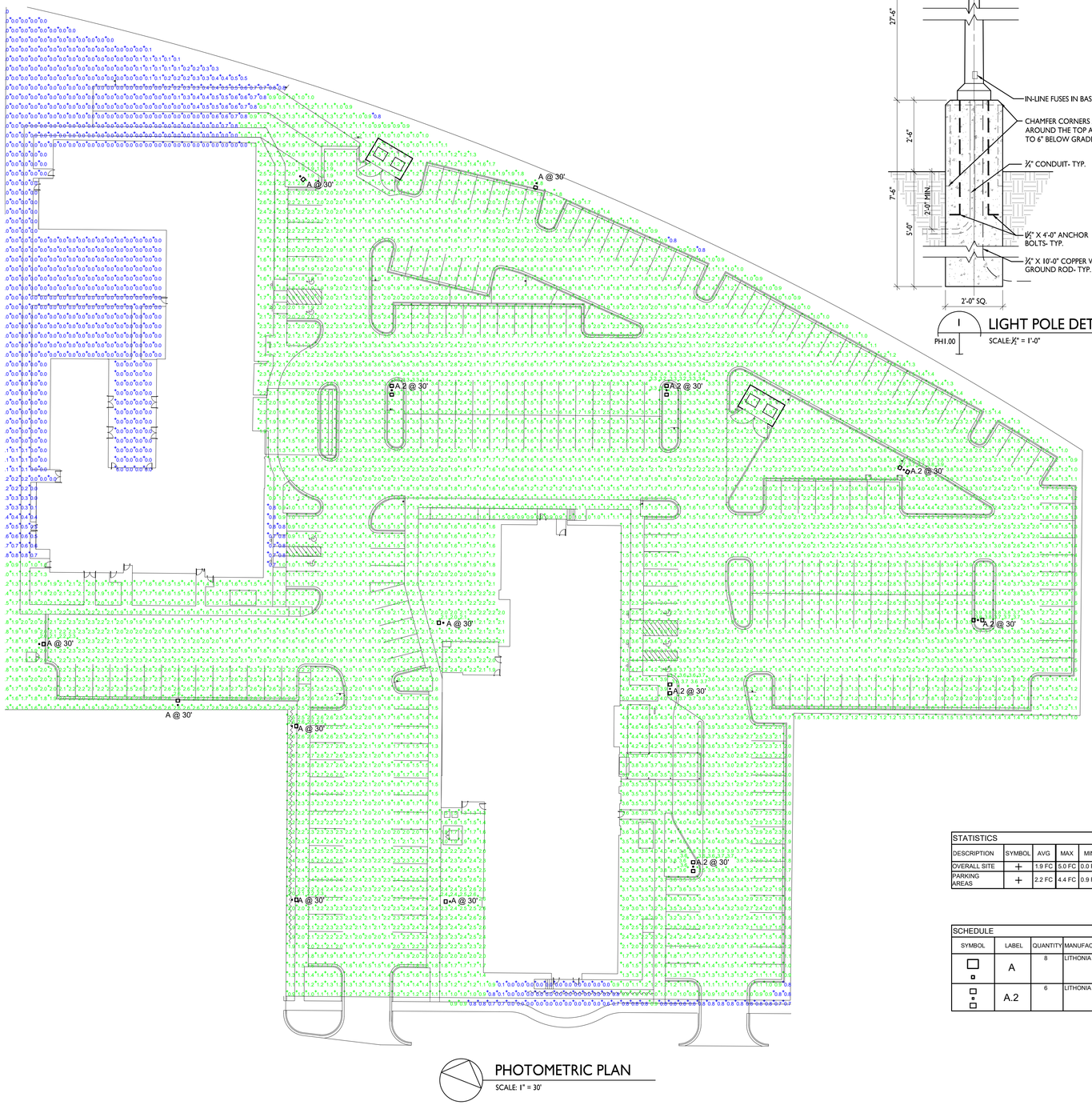


PHOTOMETRIC PLAN

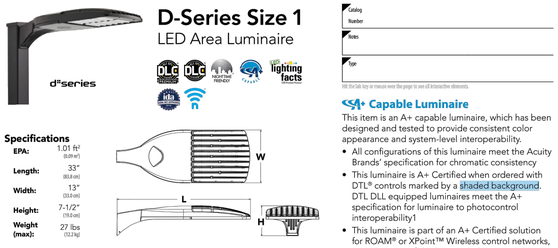
SCALE: 1" = 30'

LIGHT POLE DETAIL

PH1.00 SCALE: ½" = 1'-0"

STATISTICS						
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
OVERALL SITE	+	1.9 FC	5.0 FC	0.0 FC	N/A	N/A
PARKING AREAS	+	2.2 FC	4.4 FC	0.9 FC	4.9:1	2.4:1

SCHEDULE										
SYMBOL	LABEL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	NUMBER LAMPS	FILENAME	LUMENS PER LAMP	LIGHT LOSS FACTOR	WATTAGE
□	A	8	LITHONIA LIGHTING	DSX1 LED P7 30K T5M MVOLT	DSX1 LED P7 30K T5M MVOLT	LED	1	DSX1_LED_P7_30K_T5M_MVOLT.IES	19982	1	183
□	A.2	6	LITHONIA LIGHTING	DSX1 LED P7 30K T5M MVOLT	DSX1 LED P7 30K T5M MVOLT	LED	1	DSX1_LED_P7_30K_T5M_MVOLT.IES	19982	1	366



D-Series Size 1
LED Area Luminaire

Catalog
Number
Notes
Type

Hit the tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background2

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD

DSX1LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4 P7 P2 P5 P8 P3 P6 P9 **Rotated optics** P10[7] P12[7] P11[7] P13[7]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted[3]	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control[4,5] LCCO Left corner cutoff[4,5] RCCO Right corner cutoff[4,5]	MVOLT[4,6] 120[4] 208[5,6] 240[5,6] 277[4] 347[4,6,7] 480[4,6,7]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor[8] RPUMBA Round pole universal mounting adaptor[8] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[8]

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[9] PER NEMA twist-lock receptacle only (controls ordered separate)[11] PER5 Five-wire receptacle only (controls ordered separate)[11,12] PER7 Seven-wire receptacle only (controls ordered separate)[11,12] DMG 0–10V dimming extend out back of housing for external control (leads exit fixture) DS Dual switching[13,14] PIR Bi-level, motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 5fc[3,15,16] PIRH Bi-level, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 5fc[3,15,16] PIRHN Network, Bi-Level motion/ambient sensor[3] PIR1FC3V Bi-level, motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 1fc[3,15,16] PIRH1FC3V Bi-level, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 1fc[3,15,16] BL30 Bi-level switched dimming, 30%[3,14,16] BL50 Bi-level switched dimming, 50%[3,14,16] PNMTD3 Part night, dim till dawn[3,39] PNMT5D3 Part night, dim 5 hrs[3,39] PNMT6D3 Part night, dim 6 hrs[3,39] PNMT7D3 Part night, dim 7 hrs[3,39] FAO Field adjustable output[38]	**Shipped installed** HS House-side shield[17] SF Single fuse (120, 277, 347V)[5] DF Double fuse (208, 240, 480V)[5] L90 Left rotated optics[1] R90 Right rotated optics[1] **Shipped separately** BS Bird spikes[18] EGS External glare shield[42]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

LITHONIA LIGHTING

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DSX1-LED
Rev. 07/25/18
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PROJECT + INFORMATION
HOTEL DEVELOPMENT
2800 JACKSON AVENUE
ANN ARBOR, MICHIGAN

PROJECT + NUMBER
17-203

ISSUE + DATE
18 DEC 2018
16 JAN 2019
22 AUG 2019
02 DEC 2019 SP REV.
15 JAN 2020
23 JAN 2020

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