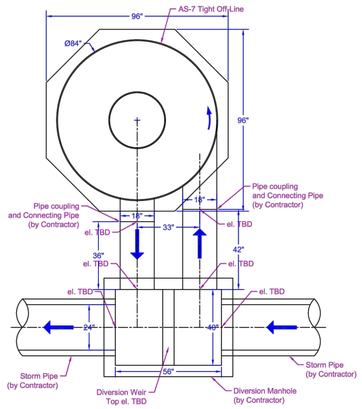

AquaShield
STORMWATER TREATMENT SOLUTIONS
2733 Kanasita Drive, Suite 111, Chattanooga, TN 37343
Phone (888) 344-9044 Fax (423) 826-2112
www.aquashieldinc.com

Aqua-Swirl Concentrator AS-7 Tight Off-Line Layout	Document: AS-7 Tight Layout
	Drawn By: JCW
Project Name City, State - Project: #00000	Scale: NTS
	Date: 11/03/16
	U.S. Patent No. 6524473 and other Patent Pending

NOTE:
AQUASHIELD AQUA-SWIRL UNIT TO BE DESIGNED PER LAYOUT, SHEET 8832-CU. THE LAYOUT ABOVE SHALL BE MIRRORED TO ACCOMMODATE SITE LIMITATIONS

Know what's **below.**
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$STIMES$,$STIMES$
$$DIV-SPEC$$,$$DIV-SPEC$$,$$DIV-SPEC$$,$$DIV-SPEC$$,$$DIV-SPEC$$

ssoe®
SSOE, Inc.
1001 Madison Ave.
Toledo, OH 43604
T. (419) 255-3830
Project # 019-00651-00

MICHAEL E DUFFEY
ENGINEER
No. 6201044126
STATE OF MICHIGAN
REGISTERED PROFESSIONAL ENGINEER
26 Mar 2020

Speedway®
Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER	DRAFTER	ENGINEER
A	FE OWNER REVIEW	08/16/19	08/16/19	08/16/19
B	CITY SUBMISSION	09/25/19	09/25/19	09/25/19
C	CITY SUBMISSION	02/05/20	02/05/20	02/05/20
D	CITY SUBMISSION	03/25/20	03/25/20	03/25/20

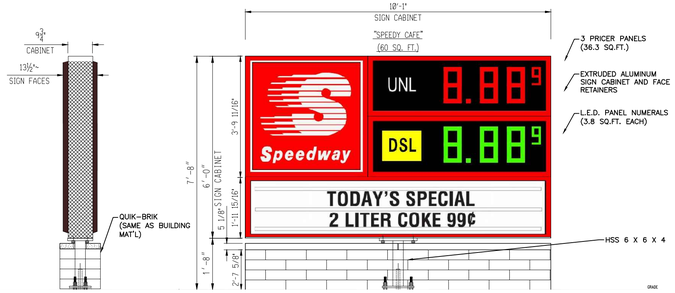
UTILITY DETAILS
REBUILD
1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

STORE OR BLDG NO. 008832
VERSION OR PROJECT ID 8252
SCALE: SCALE AS NOTED

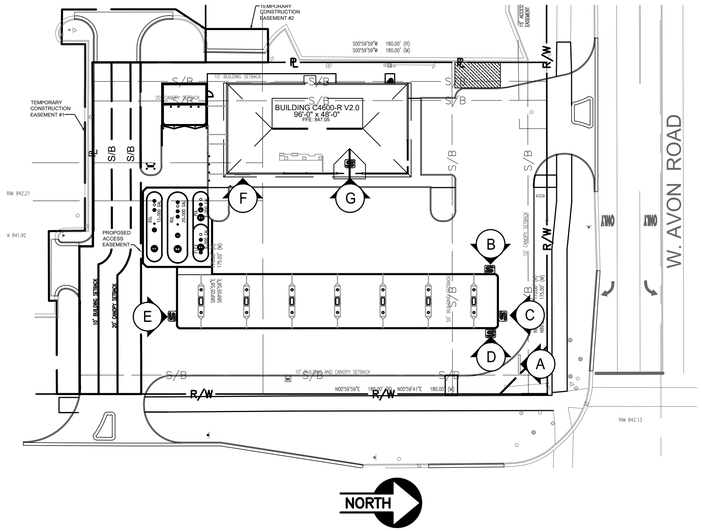
DESIGN TEAM	DATE
DGNR. E. RANDOLPH	02/05/20
P.MGR. M. ALFIERI	02/05/20
RVWR. C. HARTMAN	02/05/20

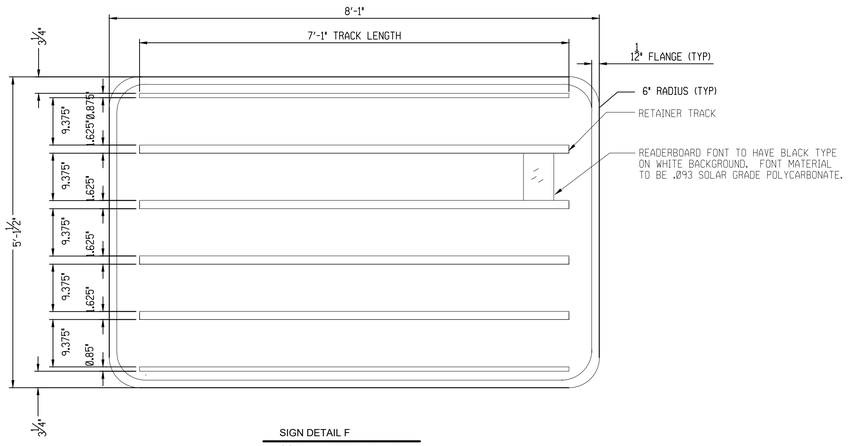
DRWG. NO. 8832-CU2

PROPOSED SIGNAGE					
REF LETTER	**LOCATION**	**MESSAGE**	**ILLUMINATED**	**DIMENSION**	**AREA (SF)**
FREE STANDING SIGNS					
A	NORTHEAST CORNER	SPEEDWAY MONUMENT	ILLUMINATED	10.08' x 6.00'	60.48
A	NORTHEAST CORNER	SPEEDWAY MONUMENT	ILLUMINATED	10.08' x 6.00'	60.48
				TOTAL	120.96
CANOPY/FUELING SIGNS					
B	AUTO CANOPY - WEST	FLYING "S" LOGO	ILLUMINATED	3.67' x 3.00'	11.00
C	AUTO CANOPY - NORTH	FLYING "S" LOGO	ILLUMINATED	3.67' x 3.00'	11.00
D	AUTO CANOPY - EAST	FLYING "S" LOGO	ILLUMINATED	3.67' x 3.00'	11.00
E	AUTO CANOPY - SOUTH	FLYING "S" LOGO	ILLUMINATED	3.67' x 3.00'	11.00
				TOTAL	44.00
BUILDING SIGNS					
F	BUILDING FACE - EAST	READERBOARD	ILLUMINATED	8.08" x 5.13"	41.43
G	BUILDING FACE - EAST	FLYING "S" LOGO	ILLUMINATED	3.67' x 3.00'	11.00
				TOTAL	52.43
				SITE TOTAL	217.39



SIGN DETAIL A
SCALE: NOT TO SCALE





SIGN DETAIL F
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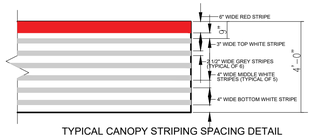
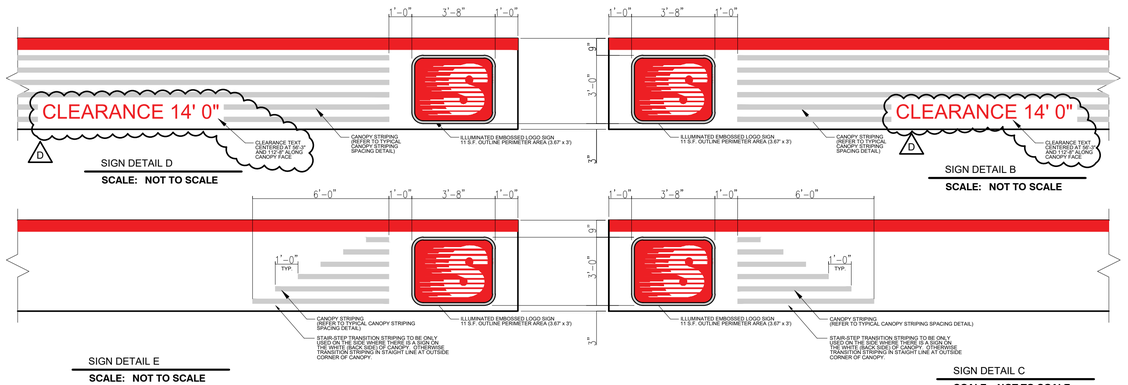
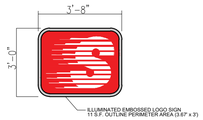


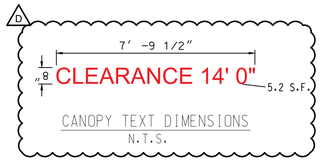
TYPICAL CANOPY STRIPING SPACING DETAIL



SPEEDWAY PAINT SCHEDULE - REV. 01/18/2019						
ITEM #	**REF**	**SUBSTRATE**	**PRIMER**	**INTERMEDIATE**	**TOPCOAT**	**Painted By:**
1		METAL BOLLARDS	PRO-CRYL, B66-310 COLOR: OFF-WHITE 2.0 – 4.0 MILS DFT	SHER-CRYL, B66R300 COLOR: SW 4081 SAFETY RED 2.5 – 4.0 MILS DFT	SHER-CRYL, B66R300 COLOR: SW 4081 SAFETY RED 2.5 – 4.0 MILS DFT	General Contractor
2		METAL SIGN POLES AND FRAMES	PRO-CRYL, B66-310 COLOR: OFF-WHITE 2.0 – 4.0 MILS DFT	SHER-CRYL, B66R300 COLOR: SW 4081 SAFETY RED 2.5 – 4.0 MILS DFT	SHER-CRYL, B66R300 COLOR: SW 4081 SAFETY RED 2.5 – 4.0 MILS DFT	Vendor Supplied
3		METAL AREA LIGHT POLES	DTM BONDING PRIMER B66A50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	Vendor Supplied
4		METAL STRUCTURAL CANOPY COLUMNS	DTM BONDING PRIMER B66A50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	SHER-CRYL, B66W351 COLOR: SW 2128 LIGHT GRAY 2.5 – 4.0 MILS DFT	SHER-CRYL, B66W 351 COLOR: SW 2128 LIGHT GRAY 2.5 – 4.0 MILS DFT	General Contractor
4.1		CANOPY DOWNSPOUTING GASOLINE ISLAND CANOPIES	DTM BONDING PRIMER B66A50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	SHER-CRYL, B66W351 COLOR: SW 2128 LIGHT GRAY 2.5 – 4.0 MILS DFT	SHER-CRYL, B66W 351 COLOR: SW 2128 LIGHT GRAY 2.5 – 4.0 MILS DFT	Vendor Supplied
4.2		CANOPY GUTTERS GASOLINE ISLAND CANOPIES	DTM BONDING PRIMER B66A50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	SHER-CRYL, B66W351 COLOR: SW 7006 EXTRA WHITE 2.5 – 4.0 MILS DFT	SHER-CRYL, B66W 351 COLOR: SW 7006 EXTRA WHITE 2.5 – 4.0 MILS DFT	Vendor Supplied
5	ARRIVE ON SITE POWDER COATED	GUTTERS STANDARD C3900/C4600 BLOCK OR BRICK COLOR SCHEMES	DMI - BRITE RED			Vendor Supplied
6		DOWNSPOUTING STANDARD C3900/C3000 BLOCK OR BRICK COLOR SCHEMES	DTM BONDING PRIMER B66A 50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	Vendor Supplied
7		METAL EXTERIOR DOORS	PRO-CRYL, B66-310 COLOR: OFF-WHITE 2.0 – 4.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	SHER-CRYL, CLEAR BASE COLOR: SATIN BRONZETONE 2.5 – 4.0 MILS DFT	General Contractor
8		PARKING LOT STRIPING & CURB TRANSITIONS (NON ADA)-STANDARD	NOT REQUIRED	NOT REQUIRED	PRO-PARK™ WATERBORNE TRAFFIC MARKING PAINT COLOR: YELLOW B97YD2467	General Contractor
8		PARKING LOT STRIPING (ADA) STANDARD	NOT REQUIRED	NOT REQUIRED	PRO-PARK™ WATERBORNE TRAFFIC MARKING PAINT COLOR: BLUE B97LD2022	General Contractor
8		PARKING LOT STRIPING (NON-ADA) - ONLY WHEN WHITE IS REQUIRED	NOT REQUIRED	NOT REQUIRED	PRO-PARK™ WATERBORNE TRAFFIC MARKING PAINT COLOR: WHITE B97WD2434	General Contractor
11		METAL CANOPY DECKING	DTM BONDING PRIMER B66A50 COLOR: OFF-WHITE 2.0 – 5.0 MILS DFT	NOT REQUIRED	SHER-CRYL, B66W 311 COLOR: SW 7006 EXTRA WHITE 2.5 – 4.0 MILS DFT	Vendor Supplied



SIGN DETAIL G
SCALE: NOT TO SCALE



NOTE:

ALL SIGNS MUST MEET SECTION 138-9.603 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.

PLAN CERTIFICATE NOTE:

ORIGINAL ALTA, TOPOGRAPHY, UTILITIES, STORM SEWERS, AND ALL OTHER EXISTING CONDITION ITEMS WERE PREPARED BY GRIGGS QUADERER FOR SPEEDWAY LLC.

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

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SSOE, Inc.
1001 Madison Ave.
Toledo, OH 43604
T. (419) 255-3830
Project # 019-00651-00

MICHAEL E DUFFEY ENGINEER No. 6201044126 PROFESSIONAL ENGINEER STATE OF MICHIGAN
26 Mar 2020

Speedway®
Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER APPVL	PE REVIEW & APPVL
A	FE OWNER REVIEW	08/16/19	08/16/19
B	CITY SUBMISSION	09/25/19	09/25/19
C	CITY SUBMISSION	02/05/20	02/05/20
D	CITY SUBMISSION	03/25/20	03/25/20

SIGNAGE PACKAGE & DETAILS
REBUILD
1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

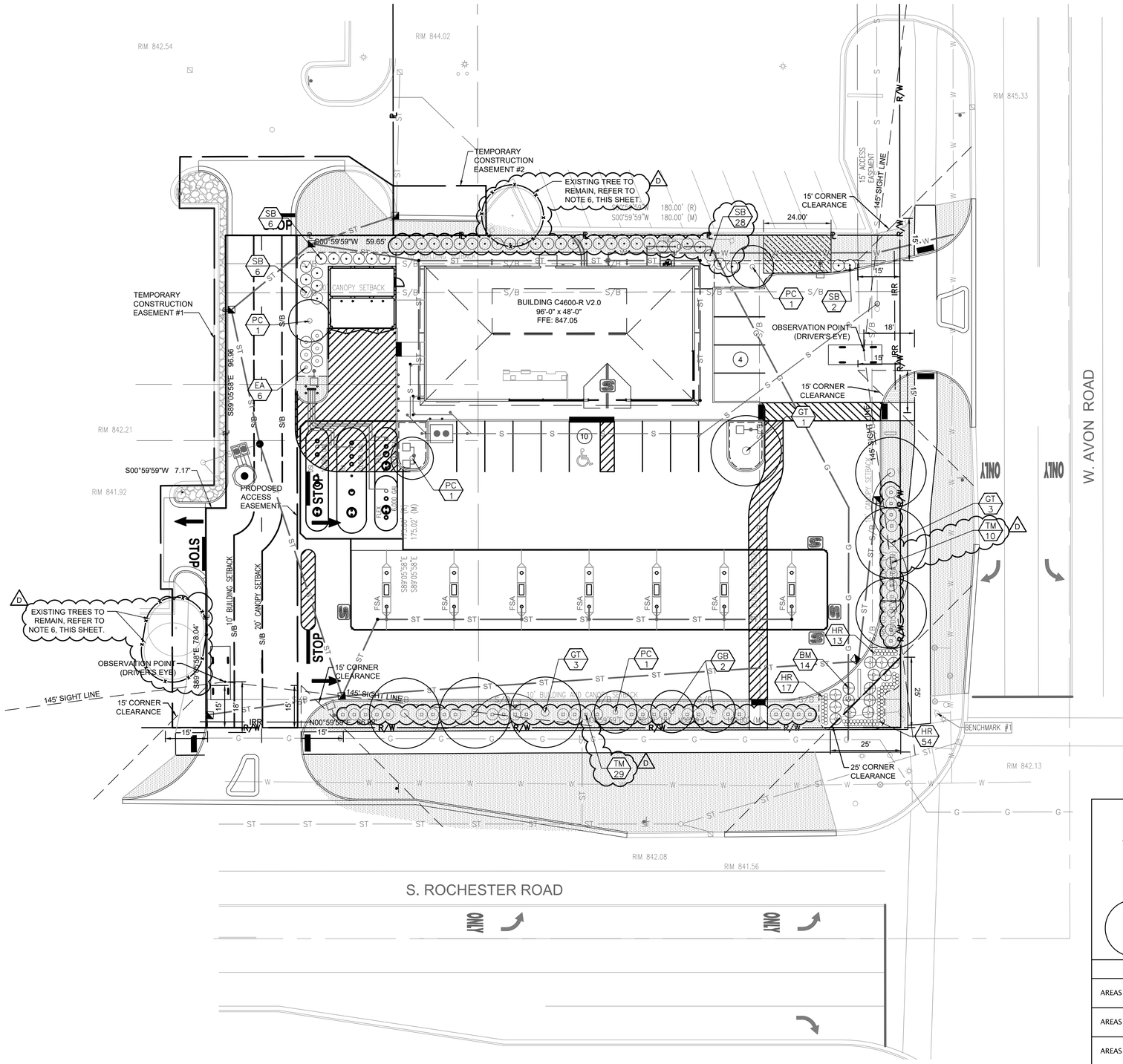
STORE OR BLDG NO. 008832
VERSION OR PROJECT ID 8252
SCALE 0 40' 1" = 40'

DESIGN TEAM	DATE
DGNR. E. RANDOLPH	02/05/20
P.MGR. M. ALFIERI	02/05/20
RVWR. C. HARTMAN	02/05/20

DRWG. NO. 8832-SS

#19-038.2 #22

SETTINGS: ##NONE##
##SOH-SPECS##..#SOH-SPECS##..#SOH-SPECS##..#SOH-SPECS##



PLANT SCHEDULE

QTY.	/KEY/	BOTANICAL NAME / COMMON NAME / SIZE / ROOT / SPACING
2	GB	GINKGO BILOBA 'PRINCETON SENTRY' PRINCETON SENTRY GINKGO, 2 1/2" CAL., B&B, SPACE AS SHOWN
7	GT	GLEDITSIA TRIACANTHOS INERMIS " IMPERIAL" IMPERIAL HONEYLOCUST, 2 1/2" CAL., B&B
14	BM	BUXUS MICROPHYLLA VAR. JAPONICA 'WINTERGREEN' WINTERGREEN BOXWOOD, 18" HT, B&B, SPACE 4' ON CENTER
84	HR	HEMEROCALLIS "HAPPY RETURNS" HAPPY RETURNS DAYLILY, CLUMP, NO.1 CONT. SPACE 15"+/- ON CENTER
42	SB	SPIRAEA X, BUMALDA "ANTHONY WATERER" ANTHONY WATERER SPIRAEA, 18" HT, 3 CAL CONT., SPACE 3'-6"+/- ON CENTER
6	EA	EUONYMUS ALATUS "RUDY HAAG" RUDY HAAG DWARF BURNING BUSH, 18" HT, B&B, SPACE 4'+/- ON CENTER
4	PC	PRUNUS CERASIFER "THUNDERCLOUD" THUNDERCLOUD PURPLE LEAF PLUM, 1 3/4" CAL., B&B, SPACE AS SHOWN
39	TM	TAXUS MEDIA "CHADWICK" CHADWICK YEW, 24" B&B, SPACE 4'+/- ON CENTER

NOTES:

1. REFER TO CIVIL DRAWINGS FOR UNDERGROUND AND OVERHEAD UTILITY LOCATIONS. CONTRACTOR TO MAKE MINOR FIELD ADJUSTMENTS IN PLANT MATERIAL LOCATIONS AS NEEDED TO COORDINATE WITH UTILITY AND/OR OTHER SITE CONDITIONS.
2. TREES TO BE LIMBED UP TO A HEIGHT OF 10' FOR PROPER SIGHT DISTANCE.
3. THE CITY OF ROCHESTER HILLS MUST INSPECT ALL LANDSCAPE PLANTINGS PRIOR TO RELEASE OF THE PERFORMANCE BOND.
4. ALL LANDSCAPE AREAS MUST BE IRRIGATED.
5. IRRIGATION OVERSPRAY SHALL NOT BE BROADCAST ONTO CITY PATHWAY.
6. REFER TO DETAIL A ON DRAWING 8832-LP1 FOR TREE PROTECTION DETAIL.

LANDSCAPE DATA

ABBREVIATIONS:
DEC - DECIDUOUS ORN - ORNAMENTAL EVR - EVERGREEN SHR - SHRUBS

TYPE B BUFFER (WEST: 237')
REQUIRED: (2 DEC + 1.5 ORN + 2 EVR + 4 SHR) / 100' = 5 DEC + 4 ORN + 5 EVR + 10 SHR
PROVIDED: 1 ORN + 36 SHR
VARIANCE: REDUCE REQUIREMENT BY 5 DEC + 3 ORN + 5 EVR

TYPE B BUFFER (SOUTH: 174')
REQUIRED: (2 DEC + 1.5 ORN + 2 EVR + 4 SHR) / 100' = 3 DEC + 3 ORN + 3 EVR + 7 SHR
PROVIDED: 1 ORN +12 SHR
VARIANCE: REDUCE REQUIREMENT BY 3 DEC + 2 ORN + 3 EVR

RIGHT OF WAY (S. ROCHESTER ROAD: 244')
REQUIRED: 1 DEC / 35' + 1 ORN / 60' = 7 DEC + 4 ORN
PROPOSED: 3 DEC + 3 ORN + 29 SHR
VARIANCE: REDUCE REQUIREMENT BY 4 DEC + 1 ORN

RIGHT OF WAY (AVON ROAD: 173')
REQUIRED: 1 DEC / 35' + 1 ORN / 60' = 5 DEC + 3 ORN
PROVIDED: 3 DEC + 10 SHR
VARIANCE: REDUCE REQUIREMENT BY 2 DEC + 3 ORN

PARKING LOT: PERIMETER (277')
REQUIRED: 1 DEC / 25' + 1 ORN / 35' + VEGETATIVE HEDGE = 11 DEC + 8 ORN + VEGETATIVE HEDGE
PROVIDED: NONE (PARKING PERIMETER OVERLAPS WITH TYPE B BUFFERS AND ROW LANDSCAPING REQUIREMENTS.)
VARIANCE: 11 DEC + 8 ORN + VEGETATIVE HEDGE

PARKING LOT: INTERIOR (383 SF LANDSCAPE ISLAND)
REQUIRED: 5% OF PARKING LOT + 1 DEC / 150 SF LANDSCAPE AREA = 3 DEC
PROVIDED: 1 DEC + 1 ORN
VARIANCE: REDUCE REQUIREMENT BY 1 DEC AND SUBSTITUTE 1 ORN FOR 1 DEC, PARKING LOT % ONLY APPLICABLE WITH 20 OR MORE PARKING SPACES

LEGEND

PLANT KEY-REFER TO PLANT SCHEDULE, THIS SHEET
PLANT QUANTITY

DESCRIPTION	NEW
AREAS TO BE SODDED AND IRRIGATED	
AREAS TO BE STONE MULCHED	
AREAS TO BE MULCHED	
3" PVC IRRIGATION SLEEVE BY CONTRACTOR	IRR
TREE PROTECTION	x x x

TREE PRESERVATION

REGULATED TREES
7 ON SPEEDWAY PARCEL
3 WITHIN CANOPY FOOTPRINT
4 WITHIN PAVEMENT AREA

PRESERVATION PERCENTAGE: 40%
(BASED ON TREES NOT WITHIN BUILDING FOOTPRINT)
PRESERVED TREES REQUIRED: 40% X 4 = 2
PRESERVED TREES PROVIDED: 0% = 0

TREES REMOVED:
DECIDUOUS: 2
CONIFEROUS: 2

PLAN CERTIFICATE NOTE:

ORIGINAL ALTA, TOPOGRAPHY, UTILITIES, STORM SEWERS, AND ALL OTHER EXISTING CONDITION ITEMS WERE PREPARED BY GRIGGS QUADERER FOR SPEEDWAY LLC.

NOTES:
1. SEE DRAWING 8832-CV FOR GENERAL LEGEND

NORTH

Know what's below. Call before you dig.

SSOE Inc.
1001 Madison Ave.
Toledo, OH 43604
T. (419) 255-3830
Project # 019-00651-00

LEE E. SMYKOWSKI LANDSCAPE ARCHITECT REGISTERED LANDSCAPE ARCHITECT STATE OF MICHIGAN

Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER INIT.	DESIGNER DATE	PROJ. MGR. INIT.	PROJ. MGR. DATE	REVIEWER INIT.	REVIEWER DATE
A	FE OWNER REVIEW	ER	08/16/19	MA	08/16/19	CH	08/16/19
B	CITY SUBMISSION	ER	09/25/19	MA	09/25/19	CH	09/25/19
C	CITY SUBMISSION	ER	02/06/20	MA	02/05/20	CH	02/05/20
D	CITY SUBMISSION	ER	03/25/20	MA	03/25/20	CH	03/25/20

LANDSCAPE PLAN

REBUILD
1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

STORE OR BLDG NO. 008832
VERSION OR PROJECT ID. 8252
SCALE 0 20' 1" = 20'

DESIGN TEAM	DATE
DGNR. E. RANDOLPH	02/05/20
P.MGR. M. ALFIERI	02/05/20
RVWR. C. HARTMAN	02/05/20

DRWG. NO. 8832-LP

#19-038.2 #22

$STONES_EST_NOTES
$DIAN-SPEC$ $DIAN-SPEC$ $DIAN-SPEC$ $DIAN-SPEC$ $DIAN-SPEC$

A. GENERAL NOTES

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN OR EQUIVALENT. ALL MATERIAL SHALL ALSO CONFORM TO THE SPEEDWAY SPECIFICATIONS SECTION 329200 - TURF & GRASSES AND SECTION 329300 - PLANTS. FOR ANY SPECIFICATION CONFLICTS, THE AMERICAN STANDARD FOR NURSERY STOCK IS THE CONTROLLING SPECIFICATION.
3. IF DISCREPANCIES BETWEEN THE PLAN AND THE PLANT LIST ARE FOUND, CONTACT THE OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES THAT MAY BE REQUIRED FOR LANDSCAPE PORTION OF WORK.
5. ALL NEW LANDSCAPE PLANTINGS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING FINAL INSPECTION BY OWNER'S REPRESENTATIVE. AT THE END OF THIS PERIOD, PLANT MATERIAL DEEMED AS DEAD OR UNSATISFACTORY BY OWNER'S REPRESENTATIVE SHALL BE REPLACED AT NO ADDITIONAL CHARGE BY THE LANDSCAPE CONTRACTOR.
6. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING PRIOR TO BID DATE OF ANY PLANTS THAT THEY FEEL MAY NOT SURVIVE IN LOCATIONS NOTED. RECOMMEND HARDIER AND SALT TOLERANT VEGETATION FOR COLD WEATHER REGIONS.
7. PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE HELD AND PROTECTED FROM DAMAGING WIND AND SUN, WATERED DAILY AND PLACED WHERE THEY WILL NOT CONFLICT WITH CONSTRUCTION OPERATIONS OR GET DAMAGED.
8. NO SUBSTITUTIONS OF PLANT MATERIAL WILL BE ALLOWED. IF PLANTS SHOWN ARE UNAVAILABLE, THE CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE PRIOR TO BID DATE IN WRITING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT IDENTIFICATION SHOWING GENUS, SPECIES AND VARIETY AT NURSERY OR CONTRACTOR'S OPERATION PRIOR TO MOVING TO JOB SITE. PLANTS MAY ALSO BE INSPECTED AND APPROVED OR REJECTED ON THE JOB SITE.
9. LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY. AFTER REMOVAL OF NOTED ITEMS AND LOOSENING OF SUBSOIL, AMEND EXISTING OR PURCHASED TOPSOIL TO PROVIDE A WELL-DRAINING PLANTING MEDIUM THAT MEETS THE OPTIMUM GROWING REQUIREMENTS OF THE SPECIFIED PLANTS. A FULL 4 INCH LAYER OF OWNER APPROVED SHREDDED FIBROUS PEAT MOSS MAY BE USED IN LIEU OF PLANTING MIX IN ALL PLANTING BEDS AND HEDGEROWS.
10. ALL PLANTS, INCLUDING TREES, SHRUBS, GROUND COVER, AND FLOWERS, SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL BALLED AND BURLAPPED ROOT WRAPPING FABRIC AND BINDING TWINE SHALL BE MADE OF BIODEGRADABLE MATERIALS, WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS.
11. GROUND COVER AND FLOWERS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS ORIGINAL GRADE BEFORE DIGGING. TREES AND SHRUBS SHALL HAVE A FINISH GRADE OF +1 INCH MAXIMUM TO ORIGINAL GRADE. WHERE HEAVY POORLY DRAINING SOILS ARE ENCOUNTERED SEEK APPROVAL FROM OWNER'S REPRESENTATIVE TO PLANT THE MATERIAL HIGHER THAN EXISTING GRADE TO AVOID DROWNING.
12. SIZE OF VEGETATION DEPICTED ON DRAWING IS A MATURE-SIZED REPRESENTATION AND IS NOT INDICATIVE OF SIZE OF ITEM AT PLANTING.
13. REFER TO PLAN CALLOUTS FOR ALL LANDSCAPE AREAS REQUIRING MULCH BEDDING. GRAVEL MULCH SHALL BE USED IN NARROW AREAS FOR LANDSCAPING BETWEEN THE BUILDING AND THE SIDEWALK, OR IN ANY MULCH BEDS ALONG SIDEWALKS OR PARKING SPACES. USE DARK BROWN, SHREDDED, HARDWOOD MULCH IN ALL OTHER LOCATIONS (UNLESS OTHERWISE DENOTED ON THE PLAN AND/OR REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION).
14. TREES ARE TO BE A MINIMUM OF 3 FEET AWAY FROM ANY HARDSCAPE FEATURE SUCH AS CURBS, WALKS, ETC. TREES SHALL HAVE A ROOT BARRIER SYSTEM IF WITHIN 3-5 FEET OF ANY HARDSCAPE FEATURE.
15. MAINTAIN 3 FEET MINIMUM FROM THE NEAREST DRIPLINE/ROOT BALL EDGE OF PLANTED TREES TO THE NEAREST EDGE OF ANY UTILITY LINES. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCING WORK AND PROVIDE A ROOT BARRIER SYSTEM FOR TREES WITHIN 3-5 FEET OF UTILITY LINES.
16. ALL AREAS NOTED "GRADE AND TURF" AND "MULCHED PLANT BED" WILL RECEIVE TOP SOIL AS INDICATED IN SPEEDWAY SPECIFICATIONS. FOR NON-IRRIGATION SITES, WATER LAWN FOR 30 DAYS POST TURNOVER DATE.
17. ALL VEGETATION AND LANDSCAPING PROPOSED WITHIN THE RIGHT-OF-WAY IS ONLY ALLOWED IF REQUIRED BY LOCAL JURISDICTION AGENCY.
18. ALL PLANTS SHALL BE SPRAYED WITH AN ANTIDESSICANT PER MANUFACTURER'S RECOMMENDATIONS AND WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING.
19. AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING AND GROUND COVER BEDS AT RATES SPECIFIED BY MANUFACTURER FOR EACH VARIETY OF PLANT.
20. USE GRASSES FOR SEEDING BY SPECIES THAT ARE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH AOSA'S "JOURNAL OF SEED TECHNOLOGY; RULES FOR TESTING SEEDS FOR PURITY AND GERMINATION TOLERANCES. ALSO, SEED SPECIES ARE TO BE SITE SPECIFIC STATE-CERTIFIED SEED OF GRASS SPECIES AS STATED ON DRAWINGS.

20a. WHEN SEEDING, EVENLY DISTRIBUTE SEED BY SOWING THE SPREADER OR SEEDING MACHINE IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER PER SEEDING RATE LISTED ON DRAWINGS. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF TOPSOIL, ROLL LIGHTLY, AND WATER WITH A FINE SPRAY. PROTECT SEEDED AREAS BY SPREADING STRAW MULCH AT A RATE OF 2 TONS/ACRE WITH 1-1/2 INCHES IN LOOSE THICKNESS.

20b. WHEN SEEDING BY HYDROSEEDING MIX, PROVIDE SLOW-RELEASE FERTILIZER, AND FIBER MULCH IN WATER, USING EQUIPMENT SPECIFICALLY DESIGNED FOR HYDROSEED APPLICATION. UNIFORMLY BLEND INTO HOMOGENEOUS SLURRY. APPLY THE SLURRY UNIFORMLY AT A RATE SO THAT MULCH COMPONENT IS DEPOSITED AT NOT LESS THAN 1500 LB/ACRE DRY WEIGHT, AND SEED COMPONENT IS DEPOSITED AT NOT LESS THAN THE SPECIFIED SEED-SOWING RATE.

21. WHEN USING TURFGRASS SOD THE QUALITY WILL COMPLY WITH "SPECIFICATIONS FOR TURFGRASS SOD MATERIALS" IN TPI'S "GUIDELINE SPECIFICATIONS TO TURFGRASS SODDING."

21a. LAY SOD WITHIN 24 HOURS OF HARVESTING. LAY SOD WITH TIGHTLY FITTED JOINTS, OFFSETTING JOINTS IN ADJACENT COURSES; DO NOT STRETCH OR OVERLAP. TAMP AND ROLL LIGHTLY. FILL MINOR CRACKS BETWEEN PIECES OF SOD WITH SOIL OR SAND. LAY SOD ACROSS ANGLE OF SLOPES EXCEEDING 1:3. ANCHOR SOD ON SLOPES EXCEEDING 1:6 WITH WOOD PEGS OR STEEL STAPLES. SATURATE SOD WITH FINE WATER SPRAY WITHIN TWO HOURS OF PLANTING. FOR THE FIRST WEEK, WATER DAILY TO MAINTAIN MOIST SOIL TO A MINIMUM DEPTH OF 1-1/2 INCHES BELOW SOD.

B. IRRIGATION NOTES

1. CONTRACTOR SHALL DESIGN, SUPPLY, AND INSTALL IRRIGATION SYSTEM FOR ALL SEEDED AND PLANTING BED AREAS AS SHOWN. DESIGN SHALL ADHERE TO LOCAL AND JURISDICTIONAL CODES AND BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
2. THE IRRIGATION SYSTEM SHALL CONFORM TO SPEEDWAY SPECIFICATIONS SECTION 328400 - "PLANTING IRRIGATION".
3. PROVIDE HYDRAULIC ANALYSIS OF CRITICAL FLOW RATE (GPM) AND STATIC PRESSURE REQUIRED FOR SYSTEM TO FUNCTION AS DESIGNED.
4. CONFIRM EXISTING WATER SOURCE AVAILABLE FLOW RATE (GPM), STATIC PRESSURE AT POINT OF CONNECTION AND SERVICE LINE SIZE AT POINT OF CONNECTION. CONTRACTOR NOTE: NOTIFY SPEEDWAY IF WATER SOURCE DOES NOT COMPLY WITH HYDRAULIC ANALYSIS REQUIREMENTS.
5. LOCATE AND IDENTIFY TYPE / SIZE OF DEDICATED WATER METER AND BACKFLOW PREVENTER ON PLANS.
6. DESIGN SEPARATE ZONES FOR TURF AND MIXED LANDSCAPE (TREES, SHRUBS, PERENNIALS OR GROUNDCOVER).
7. SHRUBS, GROUNDCOVER AND TREES SHOULD BE IRRIGATED WITH DRIP IRRIGATION.
8. PROVIDE DRIP PLANT IRRIGATION, WITH A FLOW METER, FOR LANDSCAPED AREAS WHERE TYPICAL SPRAY IRRIGATION LINES CANNOT BE UTILIZED.
9. TURF SHALL BE IRRIGATED WITH 6 INCH POP-UP SPRINKLERS.
10. LIST OF SPRINKLER NOZZLES THAT ARE ACCEPTABLE TO SPEEDWAY: HUNTER MP ROTATOR, RAIN BIRD HE-VAN SPRAY NOZZLE, AND TORO PRECISION SPRAY NOZZLE.
11. PROVIDE A DETAIL SHEET OR MANUFACTURER'S SPECIFICATIONS FOR CONTROLLER, VALVES, DRIPLINE, HEADS, AND PIPES.
12. MINIMUM 2 YEAR MANUFACTURER WARRANTY ON IRRIGATION PRODUCTS.
13. CONTROLLER TYPE, SIZE AND LOCATION SHALL BE IDENTIFIED ON PLANS ALONG WITH POWER REQUIREMENTS AND CONNECTIONS.
14. LOCATE ALL SLEEVING ON PLANS FOR HARD SURFACE CROSSINGS, SLEEVES SHOULD BE CALLED OUT AS 3 INCH PVC PIPE WITH 18" MIN COVER UNDER APPROACHES/PAVEMENT AND CAPPED ENDS AT 3' BEYOND BACK OF CURB. PIPE WILL BE UTILIZED FOR IRRIGATION LINES GOING UNDER PAVEMENT BETWEEN PLANTING BEDS.
15. ALL IRRIGATION PIPE SHALL BE SIZED ON THE PLAN.
16. SHOW ALL CONTROL VALVES, PRESSURE REDUCERS, QUICK COUPLERS AND IRRIGATION HEADS. VALVE BOXES TO BE LOCATED IN LAWN AREAS, INSTALL QUICK COUPLES AND 90' INTERVALS AT PERMIMETER OF PAVEMENTS AND CURBS.
17. PROVIDE FLOW SENSOR ON EACH SYSTEM THAT WILL SHUT DOWN A ZONE OR MAINLINE IF A LEAK IS DETECTED.
18. PROVIDE SMART CONTROL SYSTEM THAT EMPLOYS EITHER A CLIMATE SENSOR OR MOISTURE SENSOR TO AUTOMATICALLY ADJUST THE IRRIGATION OPERATIONAL PROGRAM TO MEET THE ACTUAL PLANT WATER REQUIREMENTS.
19. PROVIDE A DETAIL AND OR NOTES THAT DEFINE PIPE DEPTHS, MAINLINE, LATERALS AND SLEEVES AND PIPE LOCATION RELATIVE TO CURBS AND HARDSCAPES.
20. NO IRRIGATION HEADS, VALVES, LINES OR OTHER IRRIGATION FIXTURES AND IMPROVEMENTS TO BE WITHIN 36 INCHES FROM BACK OF CURB TO PROTECT SYSTEM FROM VEHICULAR DAMAGE. PUT THE IRRIGATION HEADS, VALVES OR LINES AT THE BACK OF NARROW LANDSCAPED AREAS. CONTRACTOR TO ADJUST SPRINKLER HEADS TO ACCOMMODATE 36 INCH MIN. STRIP OF GRASS BEHIND THE CURB. INSTALL IRRIGATION LINES WITH 12" MIN. COVER.
21. PREVENT OVER SPRAY ONTO BUILDINGS, STRUCTURES, SIGNS, SIDEWALKS OR DRIVES.
22. IRRIGATION SHALL ONLY OCCUR BETWEEN THE HOURS OF 12 AM AND 5 AM.

C. TREE PROTECTION NOTES

1. TREE PROTECTION PLAN SHALL BE IDENTIFIED BY PLASTIC-PROTECTION ZONE FENCING AT THE TREE DRIP LINE, IDENTIFYING TREES TO REMAIN.
2. THE FOLLOWING PRACTICES ARE PROHIBITED WITHIN PROTECTION ZONES
3. DO NOT DIRECT VEHICLE OR EQUIPMENT EXHAUST TOWARD PROTECTION ZONES.
4. PROTECT TREE ROOT SYSTEMS FROM DAMAGE CAUSED BY RUNOFF OR SPILLAGE OF NOXIOUS MATERIALS WHILE MIXING, PLACING, OR STORING CONSTRUCTION MATERIALS. PROTECT ROOT SYSTEMS FROM PONDING, ERODING, OR EXCESSIVE WETTING CAUSED BY DEWATERING OPERATIONS.
5. MAINTAIN PROTECTION ZONES FREE OF WEEDS AND TRASH.
6. EXCAVATE AT EDGE OF PROTECTION.
7. REPAIR OR REPLACE TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO REMAIN OR TO BE RELOCATED THAT ARE DAMAGED BY CONSTRUCTION OPERATIONS, IN A MANNER APPROVED BY THE CITY OF ROCHESTER HILLS.
8. REMOVE EXCESS EXCAVATED MATERIAL, DISPLACED TREES, TRASH, AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OF OWNER'S PROPERTY.

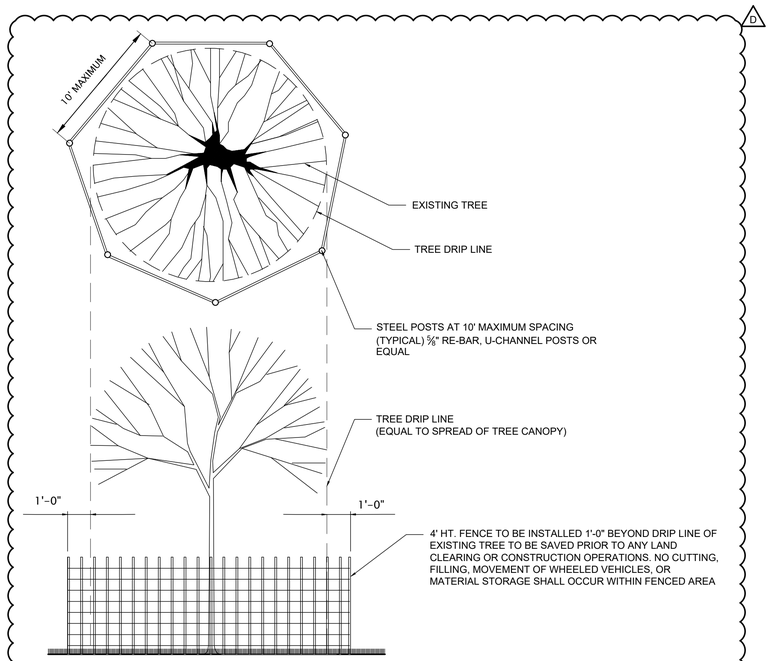
D. CITY OF ROCHESTER HILLS LANDSCAPE NOTES

1. PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB ON THE PUBLIC RIGHT-OF-WAY.
2. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC ROAD.
3. TREES MUST BE PLANTED AT LEAST 15' AWAY FROM CURB OR ROAD EDGE WHERE THE SPEED LIMIT IS MORE THAN 35 MPH.
4. SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM THE EDGE OF THE PUBLIC WALKWAY.
5. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC WALKWAY.
6. NO TREES OR SHRUBS MAY BE PLANTED WITHIN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY STREET RIGHT-OF-WAY LINES AT A DISTANCE ALONG EACH LINE OF 25' FROM THEIR POINT OF INTERSECTION.
7. NO TREES OR SHRUBS MAY BE PLANTED IN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY DRIVEWAY WITH A PUBLIC WALKWAY AT A DISTANCE ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION.
8. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM ANY FIRE HYDRANT. SHADE AND EVERGREEN TREES MUST BE AT LEAST 15' AWAY FROM THE NEAREST OVERHEAD WIRE.
9. TREES MUST BE PLANTED A MINIMUM OF 5' FROM AN UNDERGROUND UTILITY, UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS FORESTRY UNIT NEEDS TO INSPECT ALL TREES, EXISTING OR PLANTED, TO IDENTIFY ANY THAT POSE A HAZARD TO THE SAFE USE OF THE PUBLIC RIGHT-OF-WAY.
10. FORESTRY MAY REQUIRE THE DEVELOPER TO REMOVE, AND POSSIBLY REPLACE, ANY SUCH TREES. THE ABOVE REQUIREMENTS ARE INCORPORATED INTO THE PLAN.
11. THE CITY OF ROCHESTER HILLS MUST INSPECT ALL LANDSCAPE PLANTINGS PRIOR TO RELEASE OF PERFORMANCE BOND.

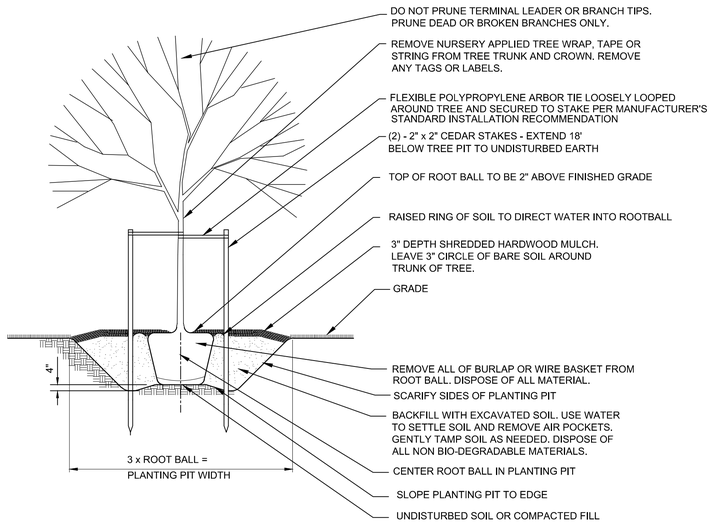
E. CITY OF ROCHESTER HILLS LANDSCAPE MAINTENANCE NOTES

THE OWNER OF THE PROPERTY SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF SITE LANDSCAPING, AS FOLLOWS:

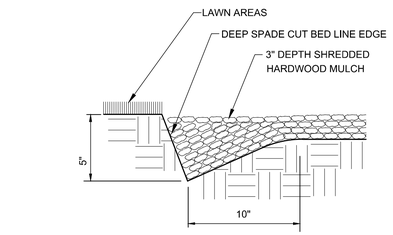
A. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
B. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
C. ALL DEAD, DAMAGED, OR DISEASED PLANT MATERIAL SHALL BE REMOVED IMMEDIATELY AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST, FOR PURPOSES OF THIS SECTION. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1 AND FROM OCTOBER 1 UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE. THE CITY MAY NOTIFY PROPERTY OWNERS OF THE NEED TO REPLACE DEAD, DAMAGED, OR DISEASED MATERIAL.
D. THE APPROVED LANDSCAPE PLAN SHALL BE CONSIDERED A PERMANENT RECORD AND INTEGRAL PART OF THE SITE PLAN APPROVAL. UNLESS OTHERWISE APPROVED IN ACCORDANCE WITH THE AFOREMENTIONED PROCEDURES, ANY REVISIONS TO OR REMOVAL OF PLANT MATERIALS, OR NON-COMPLIANCE WITH THE MAINTENANCE REQUIREMENTS OF THIS SECTION 138-12.109 WILL PLACE THE PARCEL IN NON-CONFORMITY WITH THE APPROVED LANDSCAPE PLAN AND BE A VIOLATION OF THIS ORDINANCE.
E. IF PROTECTED TREES ARE DAMAGED, A FINE SHALL BE ISSUED ON AN INCH-BY-INCH BASIS AT A MONETARY RATE AS DEFINED BY THE FORESTRY DEPARTMENT.



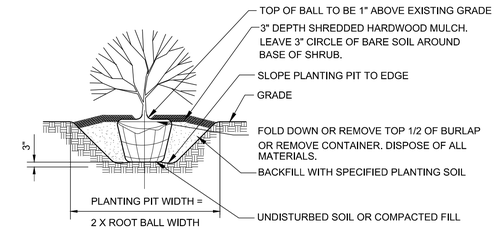
A 8832-LP TREE PROTECTION DETAIL
SCALE: NONE



B 8832-LP DECIDUOUS TREE PLANTING DETAIL
SCALE: NONE



D 8832-LP BED EDGING DETAIL
SCALE: NONE



C 8832-LP SHRUB PLANTING DETAIL
SCALE: NONE

SSOE Inc.
1001 Madison Ave.
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Project # 019-00651-00

STATE OF MICHIGAN — LEE E. SMYKOWSKI — LANDSCAPE ARCHITECT — No. 6784 — REGISTERED LANDSCAPE ARCHITECT

Speedway®

Prepared By:
Speedway
Engineering and Construction Dept.
Elyria, OH 44035

NO.	REVISIONS	DESIGNER INITIALS	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE
A	PE OWNER REVIEW	ER	CH	MA	08/16/19
B	CITY SUBMISSION	ER	CH	MA	09/25/19
C	CITY SUBMISSION	ER	CH	MA	02/05/20
D	CITY SUBMISSION	ER	CH	MA	03/25/20

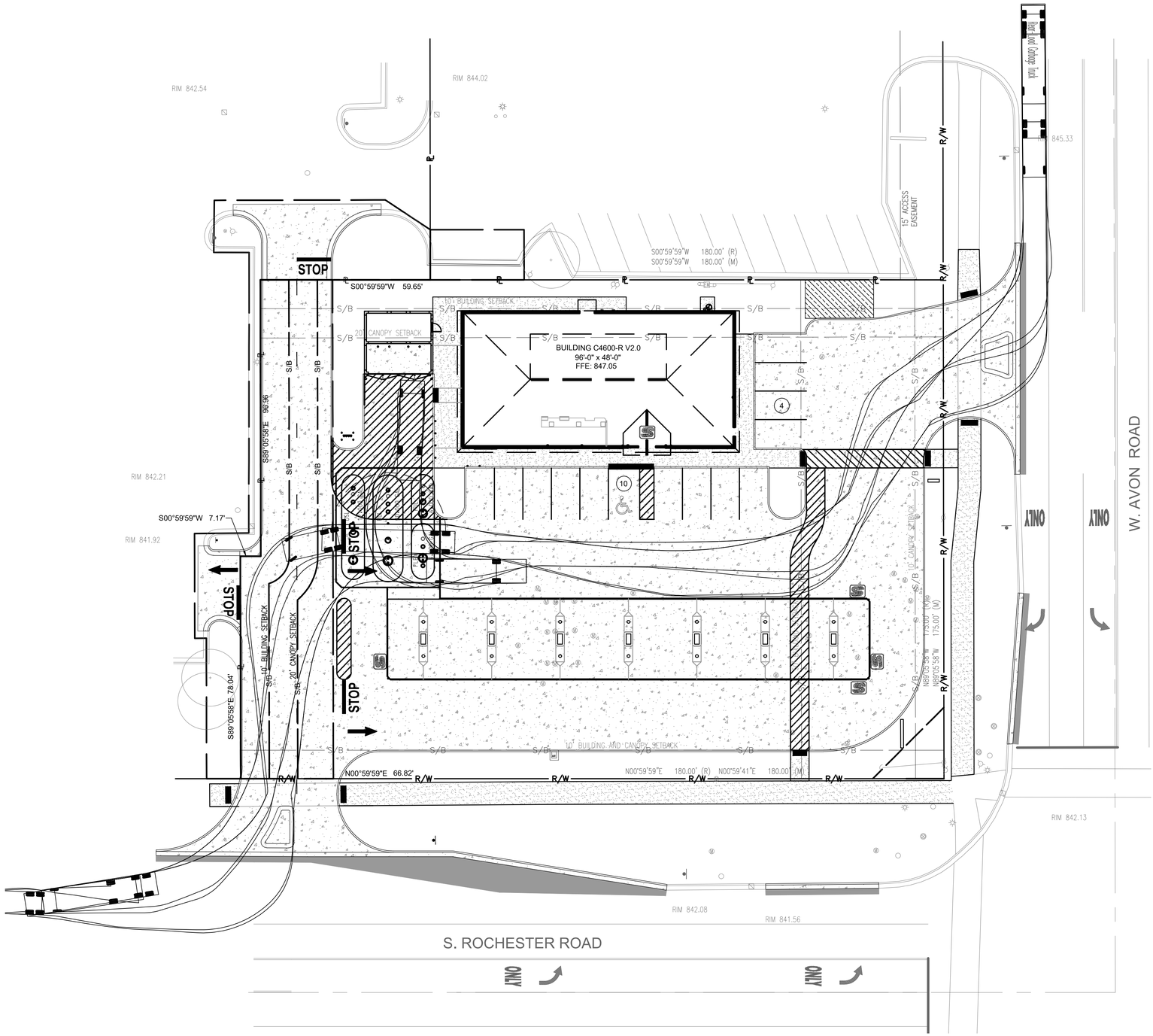
LANDSCAPE DETAILS
REBUILD
1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

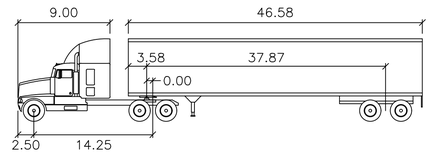
STORE OR BLDG NO. 008832
VERSION OR PROJECT ID 8252
SCALE 0

DESIGN TEAM	DATE
DGNR. E. RANDOLPH	02/05/20
P.MGR. M. ALFIERI	02/05/20
RVWR. C. HARTMAN	02/05/20

DRWG. NO. 8832-LP1

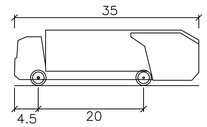
#19-038.2 #22





FUEL TRUCK feet

Tractor Width	: 8.50	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 26.0
Tractor Track	: 8.50	Articulating Angle	: 70.0
Trailer Track	: 8.50		



FRONT-LOAD GARBAGE TRUCK

Overall Length	35.00ft
Overall Width	8.375ft
Overall Body Height	10.546ft
Min Body Ground Clearance	1.000ft
Track Width	8.375ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	29.300ft

PAVEMENT LEGEND		
DESCRIPTION	PROPOSED	EXISTING
CONCRETE PAVEMENT		
CONCRETE SIDEWALK		
ASPHALT PAVEMENT		

NOTES:
1. SEE DRAWING 8832-CV FOR GENERAL LEGEND

PLAN CERTIFICATE NOTE:

ORIGINAL ALTA, TOPOGRAPHY, UTILITIES, STORM SEWERS, AND ALL OTHER EXISTING CONDITION ITEMS WERE PREPARED BY GRIGGS QUADERER FOR SPEEDWAY LLC.

NORTH

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Project # 019-00651-00

MICHAEL E DUFFEY ENGINEER No. 6201044126 STATE OF MICHIGAN
26 Mar 2020

Speedway
Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGN TEAM	DRAWN BY	CHECKED BY
A	FE OWNER REVIEW	08/16/19	08/16/19	09/16/19
B	CITY SUBMISSION	09/25/19	09/25/19	09/25/19
C	CITY SUBMISSION	02/06/20	02/05/20	02/06/20
D	CITY SUBMISSION – NO REVISIONS	03/25/20	03/25/20	03/25/20

CIRCULATION PLAN
REBUILD
1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

STORE OR BLDG NO. 008832
VERSION OR PROJECT ID 8252
SCALE 0 20' 1" = 20'

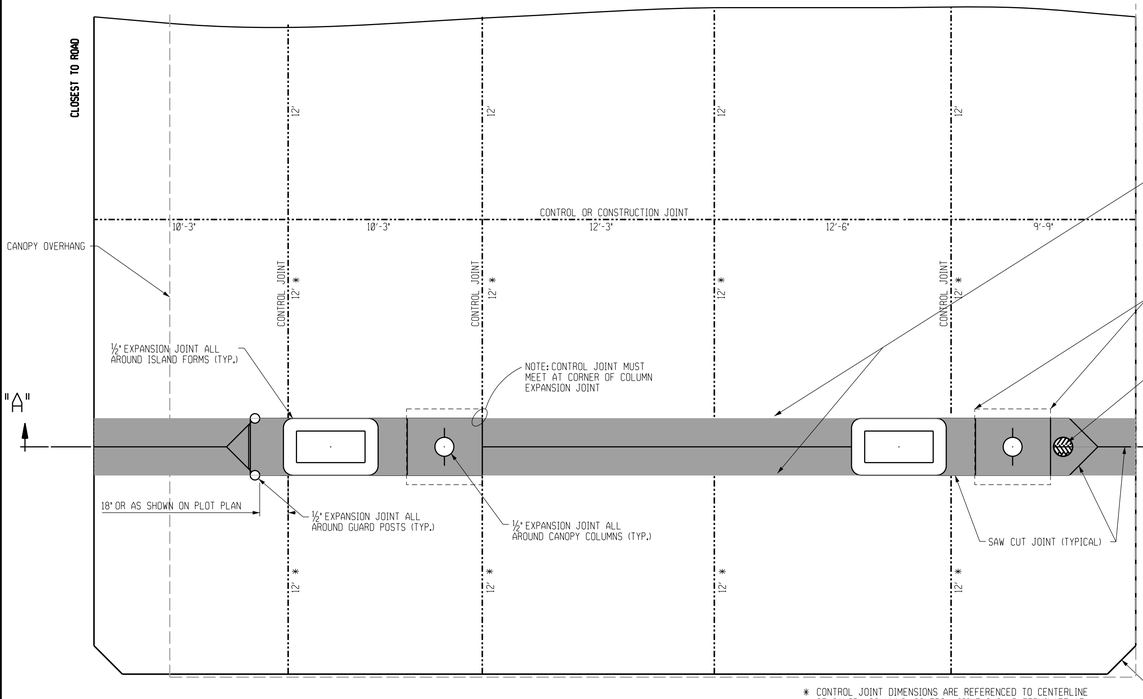
DESIGN TEAM	DATE
DGNR. E. RANDOLPH	02/05/20
P.MGR. M. ALFIERI	02/05/20
RVWR. C. HARTMAN	02/05/20

DRWG. NO. 8832-CR

#19-038.2 #22

$SITENAME$ - $SITENUMBER$
$DOCSPEC$ - $DOCSPEC$ - $DOCSPEC$ - $DOCSPEC$ - $DOCSPEC$

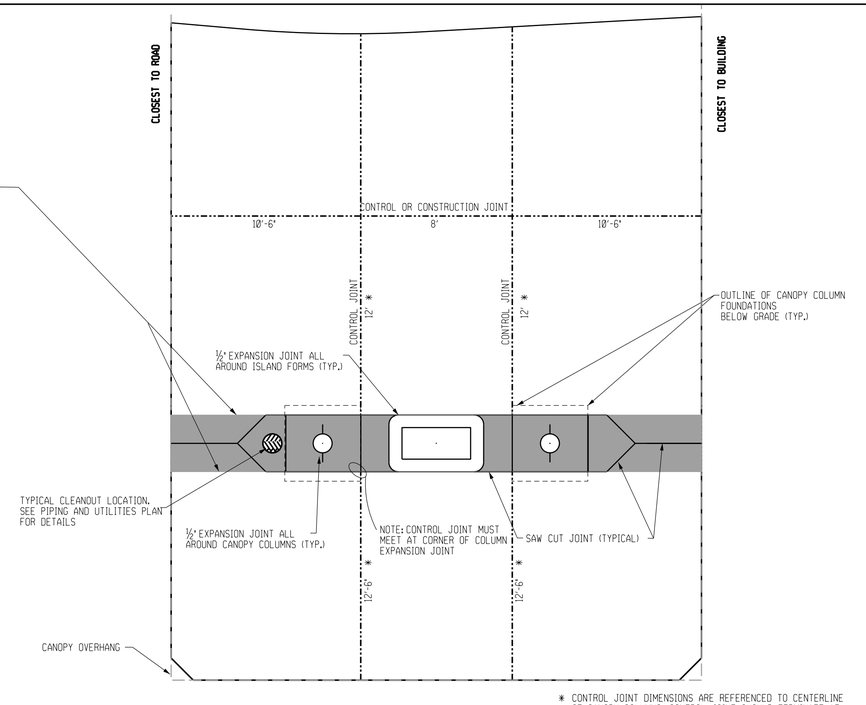
PLAN VIEWS



NOTE:
SEE CONCRETE PAVEMENT JOINT DETAIL ON SHEET STD-CPC-1

* CONTROL JOINT DIMENSIONS ARE REFERENCED TO CENTERLINE OF CANOPY COLUMNS. CONTROL JOINT SHOULD TERMINATE AT SAW CUT JOINTS.

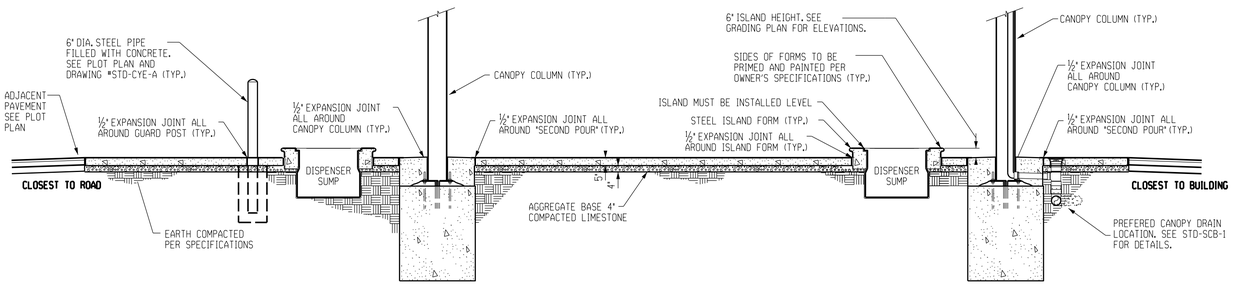
STACKED LAYOUT OPTION



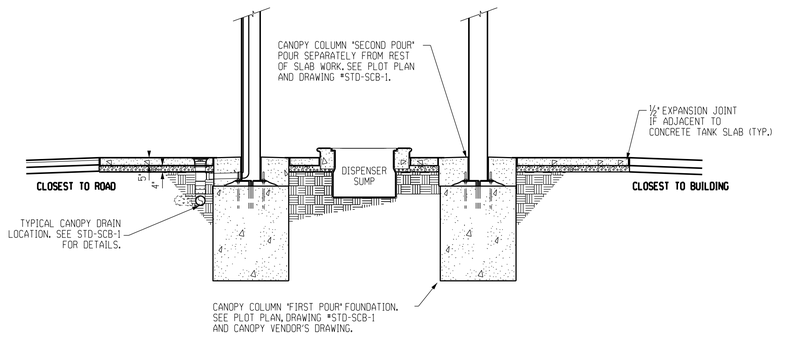
* CONTROL JOINT DIMENSIONS ARE REFERENCED TO CENTERLINE OF CANOPY COLUMNS. CONTROL JOINT SHOULD TERMINATE AT SAW CUT JOINTS.

DIVE-IN LAYOUT OPTION

NOTES AND DETAILS



TYPICAL INSIDE CANOPY COLUMN ARRANGEMENT



TYPICAL OUTSIDE CANOPY COLUMN ARRANGEMENT

NOTE:
THIS ISLAND/COLUMN CONFIGURATION IS ONLY A REPRESENTATIVE ARRANGEMENT TO SHOW TYPICAL DETAILS TO BE USED FOR ALL ISLAND INSTALLATIONS. REFER TO PLOT PLAN FOR ACTUAL SIZE AND LOCATION OF ISLANDS, CANOPY COLUMNS, GUARD POSTS, AND LIMITATIONS OF CONCRETE WORK REQUIRED.

GENERAL CONSTRUCTION NOTES

1. ALL EXPANSION JOINT MATERIAL TO BE FULL DEPTH, RECESSED ¾" AND SEALED PER SPECIFICATIONS AND DRAWING *STD-CPC-1.
2. SAWED CONTROL JOINTS TO BE 1/3 THE DEPTH OF CONCRETE AND SHOULD UNIFORMLY DIVIDE THE SLAB INTO NOMINAL 12'-6" X 12'-6" (MAX.) SECTIONS.
3. CONSTRUCTION JOINTS SHALL REPLACE OR LINE UP WITH INTENDED CONTROL JOINTS.
4. SEE DRAWING *STD-CPC-1 FOR JOINT DETAILS.

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Project # 019-00651-00

STATE OF MICHIGAN — MICHAEL E DUFFEY — ENGINEER — No. 6201044126 — PROFESSIONAL ENGINEER
26 Mar 2020

Speedway®

Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER	PROJECT MANAGER
1	RIBBON POURING ALTERNATIVE AT CANOPY ISLAND	JM 5-18-17	EM 5-18-17
2	WAYNE DISPENSER UPDATES	JM 1-25-18	EM 1-25-18

TYPICAL ISLAND AND CONCRETE SLAB DETAILS

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

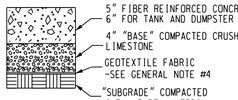
DESIGN TEAM		DATE
DGNR.	E. NICHOLAS	02-26-16
P. MGR.	J. FRYE	02-26-16
RVWR.	B. BAIRD	02-26-16

DRWG. NO. STD-CIS-A

CONCRETE PAVEMENT INSTALLATION AND MAINTENANCE

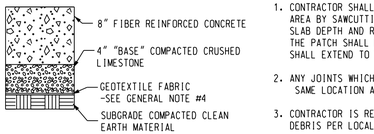
NORMAL STRENGTH PAVEMENT DETAIL

AUTO PARKING AREAS , AND
OTHER LIMITED SERVICE TRAFFIC AREAS



HIGH STRENGTH PAVEMENT DETAIL

HEAVY LOAD TRAFFIC AREAS



* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

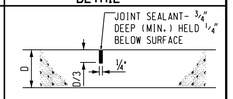
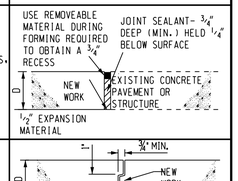
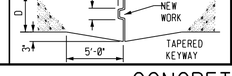
CONCRETE PAVING GENERAL NOTES:

1. ALL WORK SHALL BE IN CONFORMANCE WITH OWNER'S SPECIFICATIONS DIVISION 3 - CONCRETE.
2. SEE TANK AND PIPING DRAWING STD-PQ-4.1 . FOR ADDITIONAL REQUIREMENTS FOR TANK SLABS.
3. SEE DRAWING #STD-CIS-A FOR ADDITIONAL REQUIREMENTS FOR DISPENSER ISLAND SLABS.
4. GEOTEXTILE FABRIC (ONLY IF DIRECTED BY OWNER'S REPRESENTATIVE USE) 8 OZ/SQ.YD., NON WOVEN NEEDLE PUNCHED FABRIC
5. VERIFY WITH GEOTECHNICAL REPORT

CONCRETE PAVING MAINTENANCE NOTES:

1. CONTRACTOR SHALL REMOVE CONCRETE FROM FAILED AREA BY SAWCUTTING TO A DEPTH OF 1/4 THE ORIGINAL SLAB DEPTH AND REMOVING THE EXISTING CONCRETE. THE PATCH SHALL BE RECTANGULAR IN SHAPE AND SHALL EXTEND TO THE NEXT JOINT IF WITHIN 3'.
2. ANY JOINTS WHICH ARE REMOVED SHALL BE REPLACED IN THE SAME LOCATION AS THE OLD JOINTS - SEE JOINT DETAILS.
3. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL DEBRIS PER LOCAL, STATE, AND FEDERAL REGULATIONS.
4. SEE NORMAL STRENGTH PAVEMENT, HIGH STRENGTH PAVEMENT DETAILS FOR FULL DEPTH PATCH REQUIRMENTS.

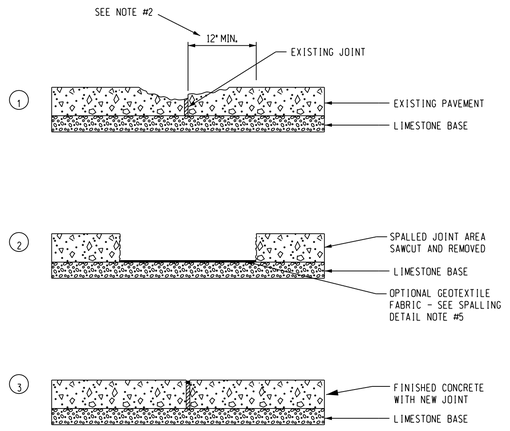
CONCRETE PAVEMENT JOINT DETAILS

TYPE OF JOINT	USE DESCRIPTION	DETAIL
A. CONTROL JOINT 1. SAWN 2. PREMOLD STRIP 3. HAND FORMED AND SAWN AT CRITICAL JOINTS	PLACE JOINTS SO AS TO UNIFORMLY DIVIDE SLABS INTO NOMINAL 12' X 12' (NORMAL STRENGTH) OR 16' X 16' (HIGH STRENGTH) SECTIONS. (SEAL CONTROL JOINTS ONLY IF SPECIFIED ON DRAWINGS OR BY OWNER'S REPRESENTATIVE.)	
B. EXPANSION JOINT (ISOLATION JOINT)	PLACE AGAINST CONCRETE TANK SLAB, ABUTTING ROADWAY PAVEMENTS AND STRUCTURES (BUILDINGS, CANOPY COLUMNS, CATCH BASINS, ETC.)	
C. CONSTRUCTION JOINT	CONSTRUCTION JOINTS MUST BE APPROVED BY OWNER'S REPRESENTATIVE. PLACE WHEN CONTINUOUS POUR OPERATIONS ARE SUSPENDED FOR MORE THAN 30 MINUTES.	

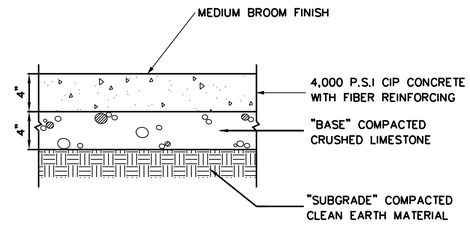
SPALLING DETAIL

SPALLING DETAIL NOTES:

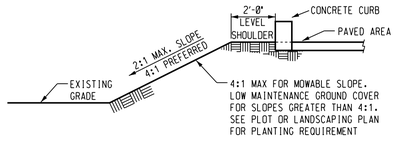
1. SPALLING ALONG JOINTS SHALL BE TREATED WITH REPAIR SIMILAR TO THAT OF A FULL DEPTH PATCH.
2. SPALLED CONCRETE SHALL BE REMOVED IN AN AREA NO LESS THAN ONE FOOT FROM THE JOINT BUT LARGE ENOUGH TO REMOVE ALL UNSOUND CONCRETE AND REMOVED TO A DEPTH GREAT ENOUGH TO REACH SUITABLE SUBGRADE.
3. THE CONCRETE SHALL BE REPLACED PER THE FULL DEPTH PATCH DETAIL AND MARATHON'S TERMINAL SPECIFICATIONS.
4. THE JOINT SHALL BE REPLACED PER THE JOINT DETAIL TO COINCIDE WITH THE LOCATION OF THE OLD JOINT. THE JOINT SHALL EXTEND THE FULL DEPTH OF THE NEW PATCH.
5. GEOTEXTILE FABRIC (NEEDS TO BE DETERMINED BY OWNER'S REPRESENTATIVE) 8 OZ/SQ YD NEEDLE PUNCHED NON WOVEN, NEEDLE PUNCHED FABRIC



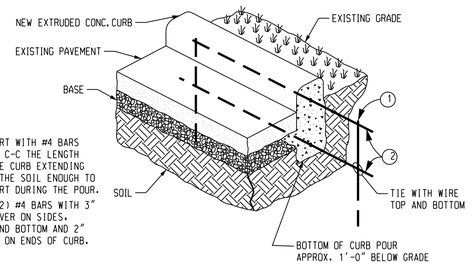
CONCRETE WALK PAVEMENT



PAVEMENT BERM

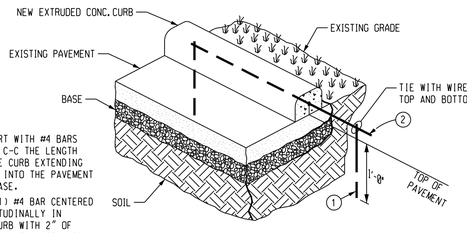


PREFERRED METHOD



1. SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING INTO THE SOIL ENOUGH TO SUPPORT DURING THE POUR.
2. USE (2) #4 BARS WITH 3" OF COVER ON SIDES, TOP AND BOTTOM AND 2" COVER ON ENDS OF CURB.

ALTERNATE METHOD

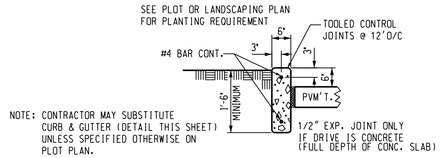


1. SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING 1'-0" INTO THE PAVEMENT AND BASE.
2. USE (1) #4 BAR CENTERED LONGITUDINALLY IN THE CURB WITH 2" OF COVER ON ENDS OF CURB.

COLD WEATHER CURB INSTALLATION

FOR USE WHEN COLD WEATHER CONDITIONS CAUSE ASPHALT PAVEMENT TO BE PLACED BEFORE THE CONCRETE CURB.

CONCRETE CURBS

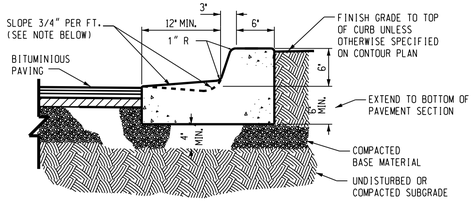


NOTE: CONTRACTOR MAY SUBSTITUTE CURB & GUTTER (DETAIL THIS SHEET) UNLESS SPECIFIED OTHERWISE ON PLOT PLAN.

1/2" EXP. JOINT ONLY IF DRIVE IS CONCRETE (FULL DEPTH OF CONC. SLAB)

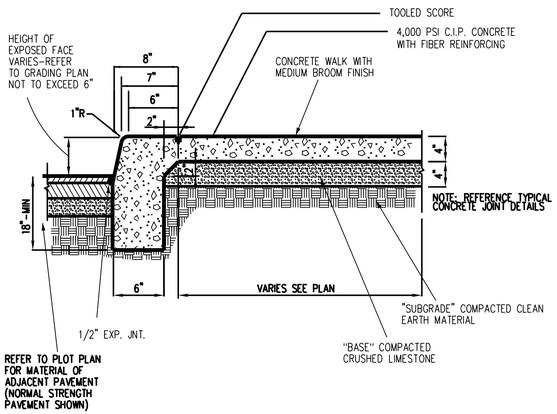
CAST-IN-PLACE CONCRETE CURB

PREFERRED



NOTE: GUTTER TO BE SLOPED DOWNGRADIENT TOWARDS CURB WHEN SITE GRADE IS TOWARDS CURB. GUTTER TO BE SLOPED DOWN GRADIENT AWAY FROM CURB WHEN SITE GRADE IS AWAY FROM CURB. MAY BE MACHINE FORMED.

STRAIGHT CONCRETE CURB & GUTTER



INTEGRAL CURB AND WALK

NOTE: EXPOSED FACE OF CURB AND 4" WIDE STRIPE ATOP OF CURB ARE TO BE PAINTED WARNING YELLOW

ASPHALT PAVEMENT INSTALLATION AND MAINTENANCE

ASPHALT SEALING

1. SURFACE CLEANING:
   THE SURFACE TO BE SEALED SHALL BE FREE FROM DIRT AND OTHER FOREIGN MATTER. ANY ACCUMULATIONS OF OIL OR GREASE SHALL BE CLEANED OFF THE PAVEMENT WITH DETERGENT SOLUTION. THE RESIDUE OF WHICH SHALL BE THOUROUGHLY WASHED AWAY WITH CLEAN WATER BEFORE SEALANT IS APPLIED.
2. SEALING:
   THE SEAL COATING MATERIAL SHALL BE COMPRISED OF A RUBBERIZED COAL-TAR PITCH EMULSION AND SHALL MEET OR EXCEED FEDERAL SPECIFICATION R-P-355e. SUPPLIED IN CONCENTRATED FORM. IT SHALL BE DILUTED A MINIMUM OF 15% AND A MAXIMUM OF 25% WITH FRESH, CLEAN WATER. THE SEALANT MATERIAL SHALL CONTAIN 5-6 LBS. PER GALLON OF FINE, CLEAN, DRY SILICA SAND MEETING THE FOLLOWING GRADATION:

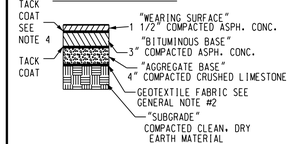
SIEVE SIZE	% PASSING
#16	100
#30	80-100
#50	10-60
#100	0-5

THE SEALANT SHALL BE APPLIED TO THE PAVEMENT IN TWO COATS AT THE RATE OF 0.08 TO 0.12 GALLONS PER SQUARE YARD. A LATEX ADDITIVE MAY ALSO BE ADDED TO THE SEALANT TO ALLOW FOR QUICKER DRYING TIME IN THOSE AREAS SPECIFIED BY OWNER'S REPRESENTATIVE.

NORMAL STRENGTH PAVEMENT

PARKING AREAS , AND OTHER LIMITED
SERVICE TRAFFIC AREAS

GRANULAR BASE (PREFERRED)



ASPHALT PAVEMENT GENERAL NOTES:

1. ALL WORK SHALL BE IN CONFORMANCE WITH OWNER'S SPECIFICATIONS FOR ASPHALTIC CONCRETE PAVING.
2. GEOTEXTILE FABRIC (NEEDS TO BE DETERMINED BY OWNER'S REPRESENTATIVE) 8 OZ/SQ.YD., NON WOVEN, NEEDLE PUNCHED FABRIC.
3. VERIFY WITH GEOTECHNICAL REPORT
4. FOR SUBSURFACE DRAINAGE OR STABLITY ISSUES DURING CONSTRUCTION (UNDER DIRECTION BY GEOTECH EXPERT):
   A. SUBSURFACE DRAINAGE ISSUE - REFER TO GUIDELINES FOR DEWATERING ISSUES TO DERIVE ACCEPTATBLE OPTIONS.
   B. SUBSURFACE STABLITY ISSUE - INSTALL A LAYER OF BIAXIAL GEOGRID AT THE MIDPOINT OF THE AGGREGATE BASE LAYER FOR THE PAVEMENT SECTION.

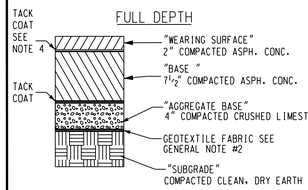
ASPHALT PAVEMENT MAINTENANCE NOTES:

1. CONTRACTOR SHALL REMOVE ASPHALT FROM FAILED AREA BY SAWCUTTING A RECTANGULAR SHAPE AT LEAST 3' BEYOND THE DAMAGED AREA. TWO OF THE EDGES MUST BE AT RIGHT ANGLES TO THE DIRECTION OF TRAFFIC.
2. SUBGRADE MUST BE REMOVED TO SOLID GROUND AND REPLACED IN ACCORDANCE WITH THE FULL DEPTH PATCH DETAIL AND OWNER'S SPECIFICATIONS.
3. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL DEBRIS PER LOCAL, STATE, AND FEDERAL REGULATIONS.
4. TACK COAT REQUIRED IF INSTALLING ON SEPARATE POURS. SEE SPEEDWAY SPECIFICATIONS FOR TIMING AND TEMPERATURE GUIDELINES FOR POURS.

HIGH STRENGTH PAVEMENT

HEAVY LOAD TRAFFIC AREAS

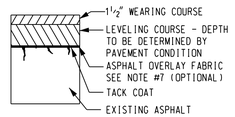
FULL DEPTH



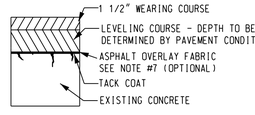
* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

ASPHALT OVERLAY DETAIL

ASPHALT SUBBASE



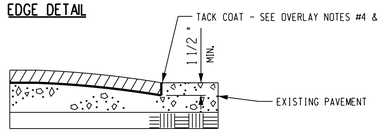
CONCRETE SUBBASE



OVERLAY DETAIL NOTES:

1. THE OVERLAY SHALL BE PLACED IN ACCORDANCE WITH SPEEDWAY'S SPECIFICATIONS.
2. ALL FAILED AREAS SHALL BE REPAIRED WITH PROPER PATCHES BEFORE OVERLAY IS PLACED.
3. IF THE SURFACE IS DISTORTED, THE CONTRACTOR WILL CONSTRUCT LEVELING COURSES TO RESTORE PROPER LINE AND CROSS SECTION.
4. THE PAVEMENT SHALL BE THOUROUGHLY CLEANED AND A TACK COAT OF ASPHALT SHALL BE APPLIED BEFORE THE OVERLAY IS PLACED.
5. ALL VERTICAL SURFACES COMING IN CONTACT WITH THE OVERLAY SHALL BE SPRAYED OR PAINTED WITH A UNIFORM COATING OF EMULSIFIED ASPHALT IMMEDIATELY PRIOR TO PAVEMENT CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER SURFACE DRAINAGE. PONDING OR PUDDLING OF WATER ON THE FINAL SURFACE WILL BE UNACCEPTABLE.
7. OPTIONAL ASPHALT OVERLAY FABRIC, DETERMINED BY ENGINEER, SHALL BE AMOPAVE NONWOVEN CONSTRUCTION FABRIC.

EDGE DETAIL



WHERE OVERLAY IS NOT SPECIFIED FOR ENTIRE EXISTING SURFACE, THE INTERFACE BETWEEN THE NEW OVERLAY AND THE OLD PAVEMENT SURFACE SHALL BE PER THE ABOVE DETAIL. FEATHERING OF THE ASPHALT TO MEET THE EXISTING PAVEMENT WILL NOT BE ACCEPTABLE.

SSOE Inc.
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Toledo, OH 43604
T. (419) 255-3830
Project # 019-00651-00

MICHAEL E DUFFEY ENGINEER No. 6001044126 STATE OF MICHIGAN
26 Mar 2020

Speedway®
Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DATE

PAVEMENT & CURBING DETAILS

SCALE 0

DESIGN TEAM		DATE
DGNR.	E.NICHOLAS	02-01-16
P.MGR.	J.FRYE	02-01-16
RVWR.	B.BAIRD	02-01-16

DRWG. NO. STD-CPC-1

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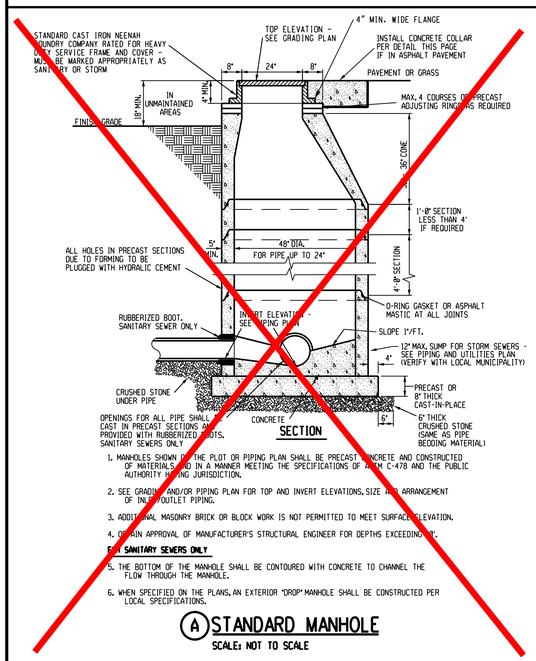
DRAINAGE & UTILITY DETAILS & SPECIFICATIONS



SECTION

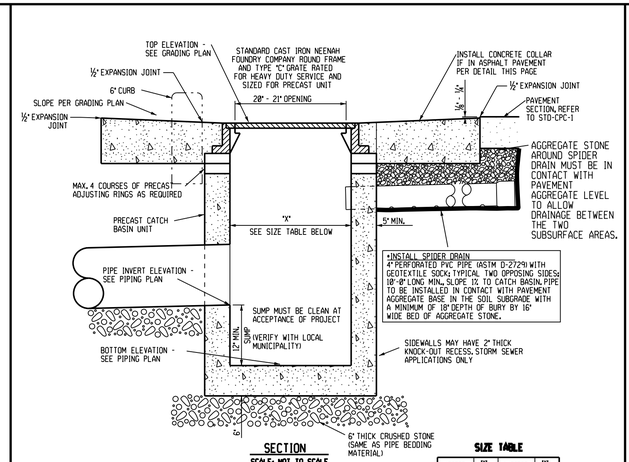
1. MANHOLES SHOWN ON THE PLOT OR PIPING PLAN SHALL BE PRECAST CONCRETE AND CONSTRUCTED OF MATERIALS, AND IN A MANNER MEETING THE SPECIFICATIONS OF ASTM C-478 AND THE PUBLIC AUTHORITY HAVING JURISDICTION.
2. SEE GRADING AND/OR PIPING PLAN FOR TOP AND INVERT ELEVATIONS, SIZE AND ARRANGEMENT OF INLET/OUTLET PIPING.
3. ADDITIONAL MASONRY BRICK OR BLOCK WORK IS NOT PERMITTED TO MEET SURFACE ELEVATION.
4. OBTAIN APPROVAL OF MANUFACTURER'S STRUCTURAL ENGINEER FOR DEPTHS EXCEEDING 10'.

FOR SANITARY SEWERS ONLY

5. THE BOTTOM OF THE MANHOLE SHALL BE CONTOURED WITH CONCRETE TO CHANNEL THE FLOW THROUGH THE MANHOLE.
6. WHEN SPECIFIED ON THE PLANS, AN EXTERIOR "DROP" MANHOLE SHALL BE CONSTRUCTED PER LOCAL SPECIFICATIONS.

(A) STANDARD MANHOLE

SCALE: NOT TO SCALE



SECTION

SCALE: NOT TO SCALE

SIZE TABLE			
LARGEST PIPE DIA.	"X" SQUARE C.B.	LARGEST PIPE DIA.	"X" ROUND C.B.
21"	24"	15"	38"
33"	36"	24"	42"
42"	48"	30"	48"
54"	68"	36"	68"
66"	72"	48"	72"

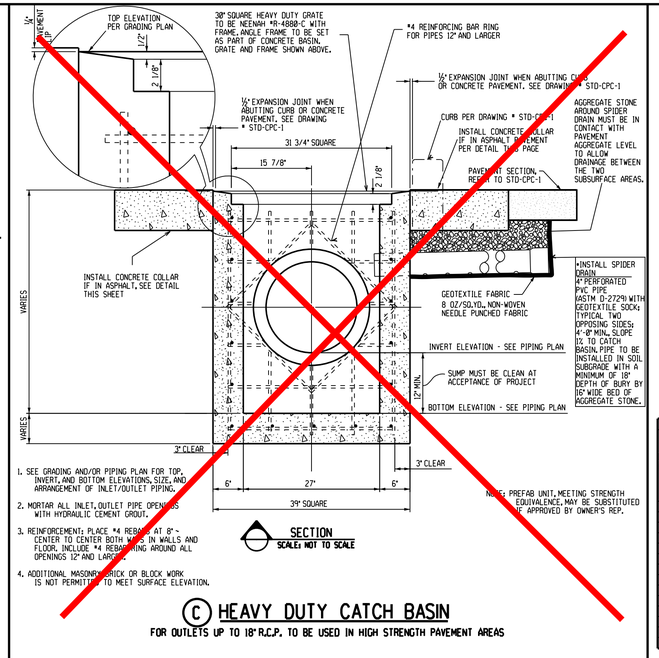
NOTE: TRAFFIC RATED REINFORCED PRE-CAST CONCRETE TOP TO BE USED WITH LARGER CATCH BASINS.

VERIFY STRUCTURE SIZE IS ADEQUATE FOR MULTIPLE PIPES AND PIPE ANGLES.

- THE PRECAST CATCH BASIN UNIT SHALL CONFORM TO THE APPLICABLE STANDARD STATE D.O.T. SPECIFICATIONS AND ASTM C-913. THE UNIT SHALL BE PROPERLY REINFORCED TO PREVENT DAMAGE DURING TRANSPORT AND INSTALLATION.
- SEE GRADING AND/OR PIPING PLAN FOR TOP, INVERT, AND BOTTOM ELEVATIONS, SIZE, AND ARRANGEMENT OF INLET/OUTLET PIPING.
- MORTAR ALL INLET, OUTLET PIPE OPENINGS WITH HYDRAULIC CEMENT GROUT.
- ADDITIONAL MASONRY BRICK OR BLOCK WORK IS NOT PERMITTED TO MEET SURFACE ELEVATION.

(B) STANDARD DUTY CATCH BASIN

TO BE USED IN NORMAL STRENGTH PAVEMENT AREAS ONLY



SECTION

SCALE: NOT TO SCALE

1. SEE GRADING AND/OR PIPING PLAN FOR TOP, INVERT, AND BOTTOM ELEVATIONS, SIZE, AND ARRANGEMENT OF INLET/OUTLET PIPING.
2. MORTAR ALL INLET, OUTLET PIPE OPENINGS WITH HYDRAULIC CEMENT GROUT.
3. REINFORCEMENT: PLACE #4 REBAR AT 8"c CENTER TO CENTER BOTH WAYS IN WALLS AND FLOOR. INCLUDE #4 REBAR TURNING AROUND ALL OPENINGS 12" AND LARGER.
4. ADDITIONAL MASONRY BRICK OR BLOCK WORK IS NOT PERMITTED TO MEET SURFACE ELEVATION.

NOTE: PREFAB UNIT, MEETING STRENGTH EQUIVALENCE, MAY BE SUBSTITUTED IF APPROVED BY OWNER'S REP.

(C) HEAVY DUTY CATCH BASIN

FOR OUTLETS UP TO 18" R.C.P. TO BE USED IN HIGH STRENGTH PAVEMENT AREAS

(D) GEOTEXTILE FABRIC SPECIFICATIONS

8 OZ. NONWOVEN NEEDLE PUNCHED FABRIC; AMOCO 4553, PHILLIPS SUPAC 8NP, OR EQUAL

GENERAL NOTES:

1. ALL STORM AND SANITARY PIPING SHALL BE THE SIZE AND TYPE SHOWN ON THE GRADING OR PIPING PLAN, AND SHALL CONFORM TO THE ASTM AND AASHTO STANDARD SPECIFICATIONS LISTED HERE, UNLESS OTHERWISE REQUIRED BY GOVERNING AUTHORITIES.
2. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF DIVISION 15 OF SPEEDWAY'S STANDARD SPECIFICATIONS.
3. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO STARTING ANY BELOW GRADE WORK TO LOCATE UNDERGROUND FACILITIES.
4. ALL SANITARY SEWERS SHALL HAVE "PREMIUM" SEALED JOINTS. STORM SEWERS WITHIN 20' OF HYDROCARBON PRODUCT PIPING OR UNDERGROUND TANKS SHALL HAVE "PREMIUM SEALED JOINTS.
5. THE PIPE INVERT SHALL BE STRAIGHT LINE GRADED BETWEEN ELEVATIONS SHOWN ON THE PLAN.
6. PIPE SHALL BE LAID FROM THE LOWER ELEVATION TO THE HIGHER ELEVATION.
7. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS PRIOR TO BEGINNING WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
8. PIPING TO BE MIN. 12" BELOW TOP OF RIGID PAVEMENT, BOTTOM OF FLEXIBLE PAVEMENT, OR FINISHED GRADE IN NON-TRAFFIC AREAS, APPLICABLE AASHTO OR AISI GUIDELINES SHALL OVERRIDE AND GOVERN MINIMUM COVER HEIGHTS WHEN GREATER THAN STATED ABOVE.
9. SEE DRAWING * STD-SCB-1 FOR CANOPY DOWNSPOUT DRAIN DETAILS.

MINIMUM DEPTH OF BURY:

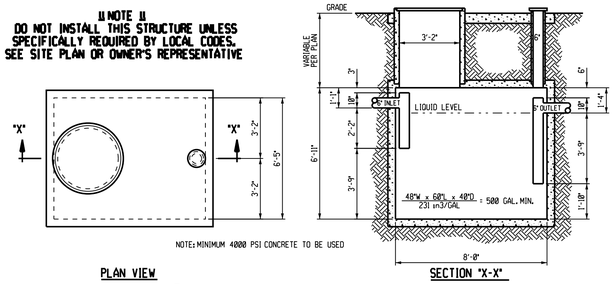
(SEE NOTE *8)

PVC ---------- 18"
RCP ---------- 12"
HDPE ---------- 18"

PIPE SLOPES

	MINIMUM PIPE SLOPES (%)				MAXIMUM PIPE SLOPES (%)			
	TYPE OF PIPE and "n" VALUES				TYPE OF PIPE and "n" VALUES			
Pipe Diameter (Inches)	POLY-VYNYL CHLORIDE (PVC) 0.010	SMOOTH LINED CORRUGATED HDPE 0.012	REINFORCED CONCRETE (RCP) & DUCTILE IRON (DIP) 0.013	CORRUGATED METAL PIPE (CMP) 0.022	POLY-VYNYL CHLORIDE (PVC) 0.010	SMOOTH LINED CORRUGATED HDPE 0.012	REINFORCED CONCRETE (RCP) & DUCTILE IRON (DIP) 0.013	CORRUGATED METAL PIPE (CMP) 0.022
4	0.92	1.33	-	-	8.29	11.93	-	-
6	0.54	0.77	-	-	4.83	6.95	-	-
8	0.37	0.53	-	1.77	3.29	4.74	-	15.92
10	0.27	0.39	-	1.31	2.44	3.52	-	11.82
12	0.21	0.31	0.36	1.03	1.92	2.76	3.24	9.27
15	0.16	0.23	0.27	0.77	1.42	2.05	2.40	6.86
18	0.12	0.18	0.21	0.60	1.12	1.61	1.89	5.40
21	0.10	0.15	0.17	0.49	0.91	1.31	1.54	4.40
24	0.08	0.12	0.14	0.41	0.76	1.09	1.28	3.68
27	0.07	0.10	0.12	0.35	0.65	0.94	1.10	3.14
30	0.06	0.09	0.11	0.30	0.56	0.81	0.95	2.73
36	0.05	0.07	0.08	0.24	0.44	0.64	0.75	2.14
48	0.03	0.05	0.06	0.16	0.30	0.43	0.51	1.46
60	0.02	0.04	0.04	0.12	0.22	0.32	0.38	1.08

NOTE
DO NOT INSTALL THIS STRUCTURE UNLESS SPECIFICALLY REQUIRED BY LOCAL CODES. SEE SITE PLAN OR OWNER'S REPRESENTATIVE

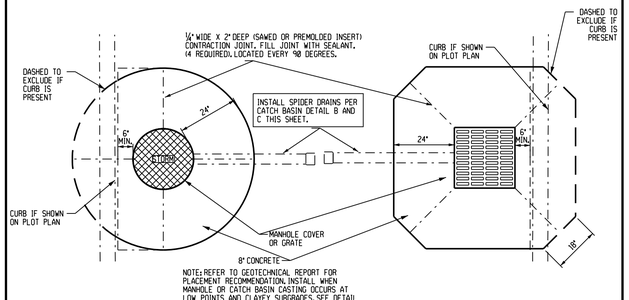


PLAN VIEW

SECTION "X-X"

(E) EXTERIOR GREASE INTERCEPTOR

SCALE: NOT TO SCALE

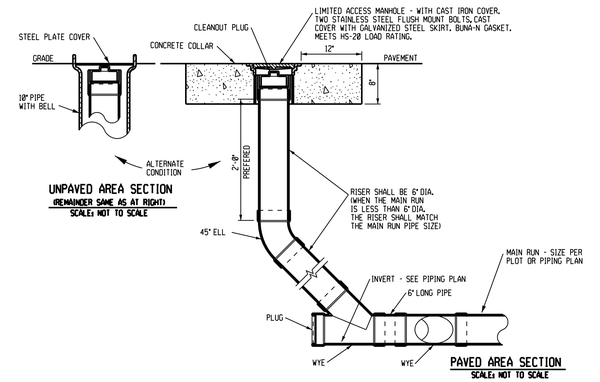


(F) CONCRETE COLLAR - ROUND GRATE & FRAME

SCALE: NOT TO SCALE

CONCRETE COLLAR - SQUARE GRATE & FRAME

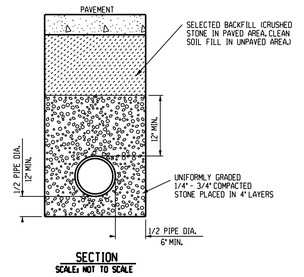
SCALE: NOT TO SCALE



UNPAVED AREA SECTION
(REMAINDER SAME AS AT RIGHT)
SCALE: NOT TO SCALE

PAVED AREA SECTION
SCALE: NOT TO SCALE

(G) UTILITIES PIPE CLEAN-OUT



SECTION
SCALE: NOT TO SCALE

(H) PIPE BEDDING

PIPE SPECIFICATIONS

TYPE OF PIPE	"n" VALUES	SIZES PERMITTED	SEVICE AND USE	PIPE SPECIFICATION	INSTALLATION SPECIFICATION	JOINT SPECIFICATION	PREMIUM JOINTS
POLY-VINYL CHLORIDE (PVC)	0.01	4" - 6"	SANITARY SEWER	ASTM D-3034 SDR 35	ASTM D-2321	ASTM D-3212	ASTM F-477
		8" - 12"	STORM DRAINAGE	STANDARD SPECIFICATION FOR TYPE PSM PVC SEWER PIPE AND FITTINGS	STANDARD PRACTICE FOR INSTALLATION OF FLEXIBLE THERMOPLASTIC SEWER PIPE CLASS 1 BEDDING FOR PAVED AREAS	STANDARD SPECIFICATION FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPES USING FLEXIBLE ELASTOMERIC SEALS	ELASTOMERIC SEALS FOR JOINING PLASTIC PIPE (OIL RESISTANT) HIGH NITRILE (NBR), EPICHLOROHYDRIN (ECO), NEOPRENE (CR), POLYSULFIDE (T), OR FLUORO ELASTOMER (FPM)
REINFORCED CONCRETE (RCP)	0.013	12" DIA. AND LARGER	STORM DRAINAGE	ASTM C-76, ASTM C1479 CLASS 3, WALL B-TONGUE AND GROOVE STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE	CLASS B BEDDING FOR PAVED AREAS WHEN OUTLETTING TO SURFACE GRADE FLARED END SECTION MUST BE USED	BITUMINOUS MASTIC	ASTM C-443 STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE, USING RUBBER GASKETS (OIL RESISTANT)
SMOOTH LINED CORRUGATED HDPE N-12 BY ADVANCED DRAINAGE SYSTEMS (800) 733-9554 SURE-LOK BY HANCOR (800) 537-9520	0.012 0.012	8" AND LARGER 12" AND LARGER	STORM DRAINAGE STORM DRAINAGE	AASHTO M294-S AASHTO M294-S	ASTM D-2321 CLASS 1 BEDDING FOR PAVED AREAS ASTM D-2321 CLASS 1 BEDDING FOR PAVED AREAS	STANDARD COUPLERS (PRO LINK) USE GASKET IN FINE SOILS BELL & SPIGOT WITH GASKET (SURE-LOK)	PVC DOUBLE BELL COUPLER WITH GASKET (PRO LINK 18.0) AVAILABLE THROUGH 24" BELL & SPIGOT WITH POLYISOPRENE GASKET (SURE-LOK 18.0) AVAILABLE THROUGH 30"
DUCTILE IRON (DI)	0.012	4" - 12"	SPECIAL	ASTM A-746 CLASS 50 STANDARD SPECIFICATION FOR DUCTILE IRON GRAVITY SEWER PIPE	TYPE 5 BEDDING FOR PAVED AREAS	RUBBER GASKET COMPRESSION TYPE JOINT	GASKET TO BE OIL RESISTANT NITRILE-BUTADIENE (NBR)
POLYETHYLENE (PE)	0.010	4" - 6"	UNDERDRAINS AND SEPTIC DISPOSAL FIELDS ONLY	ASTM F-405 STANDARD SPECIFICATION FOR CORRUGATED POLYETHYLENE TUBING AND FITTINGS	SEE UNDERDRAIN DETAIL	STANDARD COUPLINGS	N/A
CORRUGATED METAL PIPE (CMP)	0.022	12" DIA. AND LARGER	STORM DRAINAGE	ASTM A-760 STANDARD SPECIFICATION FOR CORRUGATED METAL PIPE, METALIC-COATED FOR SEWERS AND DRAINS	ASTM A-807 STANDARD SPECIFICATION FOR INSTALLING CORRUGATED METAL STRUCTURAL PLATE PIPE FOR SEWERS	STANDARD COUPLINGS	N/A

ssoe®
SSOE Inc.
1001 Madison Ave.
Toledo, OH 43604
T. (419) 255-3830
Project # 019-00651-00

MICHAEL E DUFFEY ENGINEER No. 6201044126 PROFESSIONAL
26 Mar 2020

Speedway.

Prepared by:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER	APPROVED	DATE
1	UPDATED TEXT FOR SANITARY SEWER ONLY NOTES	S.SHOOKS	E.NICHOLAS	6-5-17
2	SPIDER DRAIN AND MANHOLE RISER UPDATES	AM	E.NICHOLAS	6-21-17

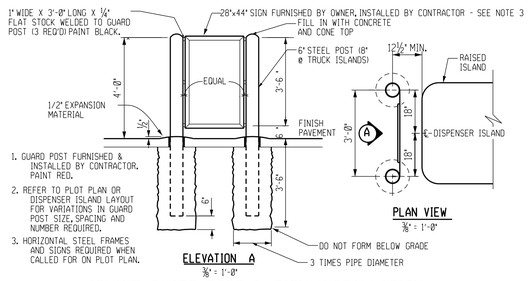
SERVICE STATION
DRAINAGE & UTILITY DETAIL & SPECIFICATIONS

SCALE: AS SHOWN

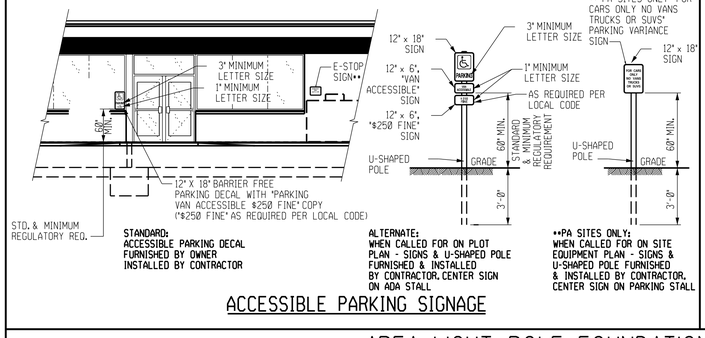
DESIGN TEAM		DATE
DGNR.	E.NICHOLAS	02-26-16
PM./DP.	J.FRYE	02-26-16
RVR./DP.	B.BAIRD	02-26-16

DRWG. NO. STD-CUD-1

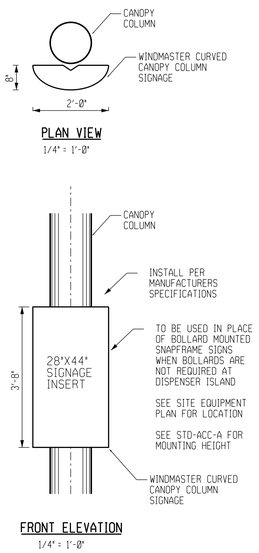
AREA YARD SIGN DETAILS



ISLAND GUARD POST & SIGN INSTALLATION

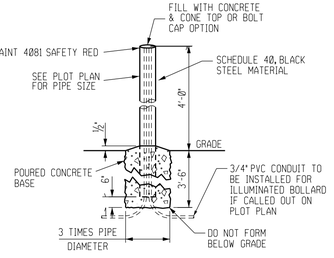


ACCESSIBLE PARKING SIGNAGE

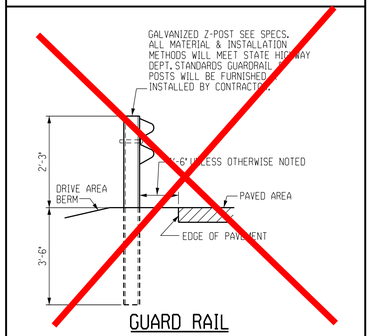


CURVED CANOPY SIGN OPTION

AREA YARD GUARDS

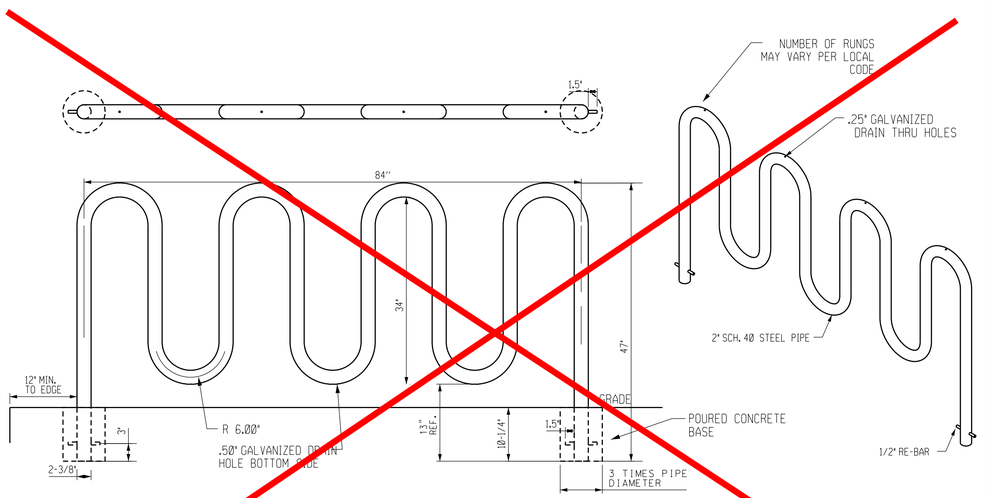


GUARD POST



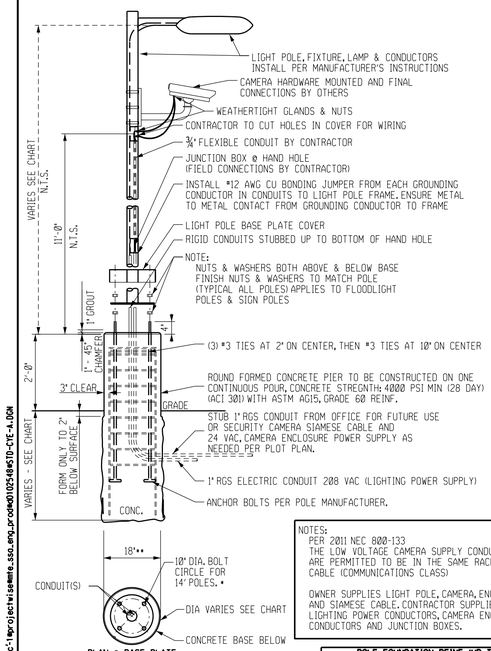
GUARD RAIL

MISCELLANEOUS SITE FEATURES



TYPICAL BIKE RACK DETAIL

AREA LIGHT POLE FOUNDATION DETAILS



- CONTACT LIGHT POLE SUPPLIER FOR INFORMATION WITH REGARDS TO 30' POLE.
- •• MINIMUM DIMENSION. IT MAY BE NECESSARY TO INCREASE DIMENSIONS TO FIT BASE PLATE, ANCHOR RODS INSIDE REINFORCEMENT CAGE.

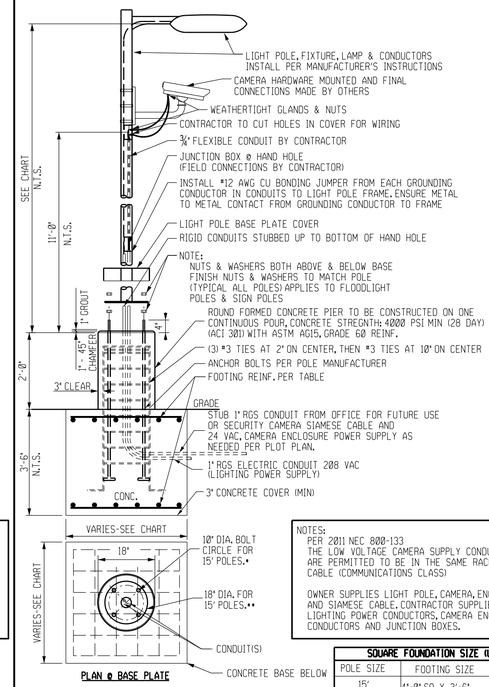
NOTES:
PER 2011 NEC 800-133
THE LOW VOLTAGE CAMERA SUPPLY CONDUCTORS (CLASS *2) ARE PERMITTED TO BE IN THE SAME RACEWAY AS THE COAX CABLE (COMMUNICATIONS CLASS)

OWNER SUPPLIES LIGHT POLE, CAMERA, ENCLOSURE, BRACKET AND SIAMESE CABLE. CONTRACTOR SUPPLIES CONDUITS, LIGHTING POWER CONDUCTORS, CAMERA ENCLOSURE CONDUCTORS AND JUNCTION BOXES.

POLE FOUNDATION REINF. (UP TO 100 MPH)			
POLE SIZE	DIAMETER	FOOTING REINF.	DEPTH
15'	18"	4 #5	6'0"
30'	24"	6 #5	7'0"

GEOTECHNICAL ENGINEER TO VERIFY EXCAVATION, 12000 PSF ALLOWABLE BEARING, AND 300 PSF ALLOWABLE LATERAL PRESSURE) BEFORE PLACING REINFORCED CONCRETE.

CLAY-LIKE SOIL CONDITIONS



- CONTACT LIGHT POLE SUPPLIER FOR INFORMATION WITH REGARDS TO 30' POLE.
- •• MINIMUM DIMENSION. IT MAY BE NECESSARY TO INCREASE DIMENSIONS TO FIT BASE PLATE, ANCHOR RODS INSIDE REINFORCEMENT CAGE.

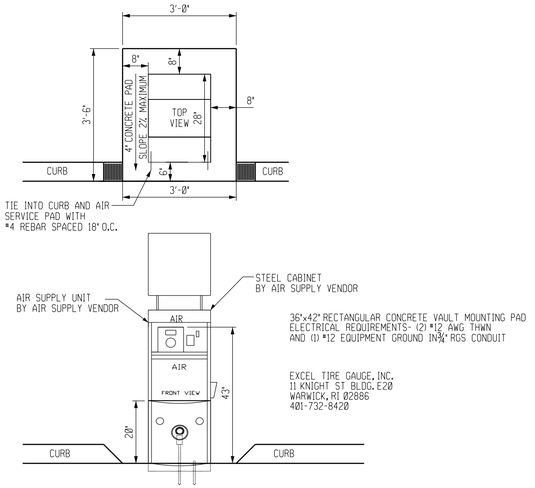
NOTES:
PER 2011 NEC 800-133
THE LOW VOLTAGE CAMERA SUPPLY CONDUCTORS (CLASS *2) ARE PERMITTED TO BE IN THE SAME RACEWAY AS THE COAX CABLE (COMMUNICATIONS CLASS)

OWNER SUPPLIES LIGHT POLE, CAMERA, ENCLOSURE, BRACKET AND SIAMESE CABLE. CONTRACTOR SUPPLIES CONDUITS, LIGHTING POWER CONDUCTORS, CAMERA ENCLOSURE CONDUCTORS AND JUNCTION BOXES.

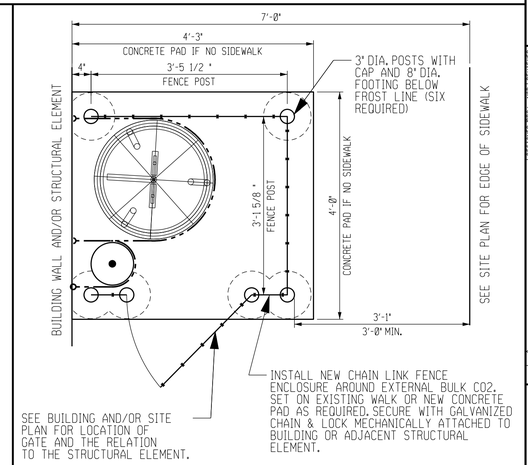
SQUARE FOUNDATION SIZE (UP TO 100 MPH)		
POLE SIZE	FOOTING SIZE	FOOTING REINF.
15'	4'-0" SQ. X 3'-6"	6 #4 E.U. T&B
30'	6'-6" SQ. X 3'-6"	6 #6 E.U. T&B

GEOTECHNICAL ENGINEER TO VERIFY EXCAVATION, 12000 PSF ALLOWABLE BEARING, AND 300 PSF ALLOWABLE LATERAL PRESSURE) BEFORE PLACING REINFORCED CONCRETE.

ROCKY/SANDY SOIL CONDITIONS



REMOTE SELF-CONTAINED AIR SERVICE



EXTERIOR BULK CO2

SCALE: 3/4" = 1'

ssoe®
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Project # 019-00651-00

STATE OF MICHIGAN — MICHAEL E DUFFEY — ENGINEER — No. 6201044126 — PROFESSIONAL ENGINEER
INCORPORATED COPY
26 Mar 2020

Speedway®

Prepared By:
Speedway
Engineering and Construction Dept.
Elyria, OH 44322

NO.	REVISIONS	DESIGNER	DATE	APPROVED
1	PENNSYLVANIA PARKING VARIANCE SIGN UPDATES	EM	9/16/16	J. FRYE
2	REMOVE AREA FOR TRASH ON AIR MACHINE PAD	EM	2/14/17	J. FRYE
3	UPDATED EXTERIOR CO2 DETAIL	SM	03/06/17	D. BAIRD
4	BOLLARD WIDTH UPDATE	EM	1/04/18	J. FRYE

YARD EQUIPMENT INSTALLATION AUTO

SCALE 0 — AS SHOWN

DESIGN TEAM	DATE
DGNR. E. NICHOLAS	02-26-16
P.MGR. J. FRYE	02-26-16
RVWR. B.BAIRD	02-26-16

DRWG. NO. STD-CYE-A

1/6/2018 10:35:24 AM
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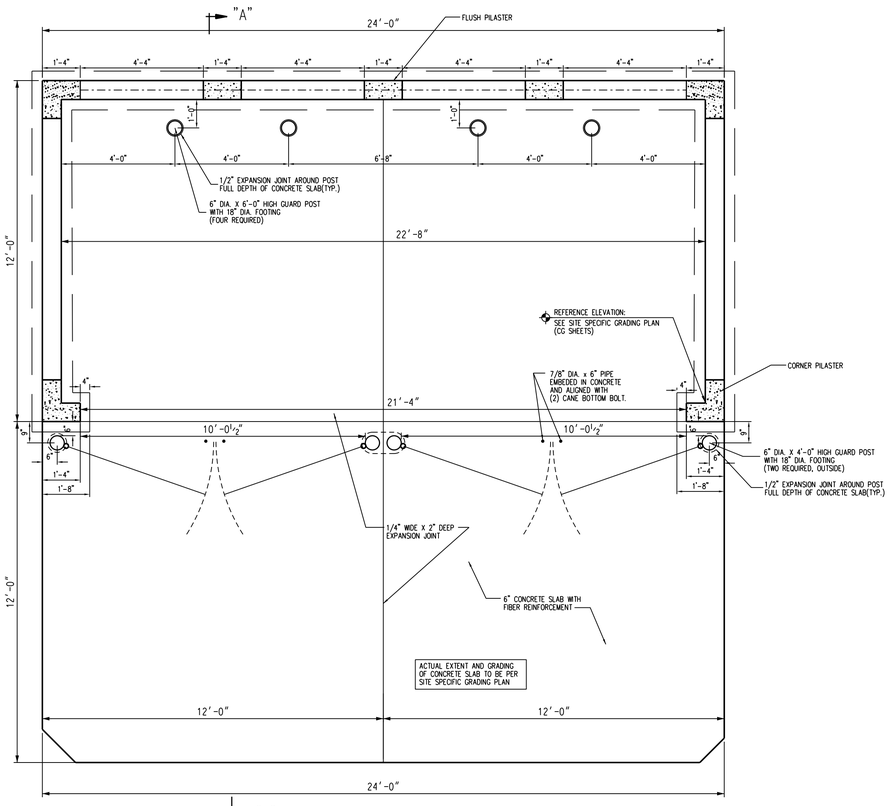
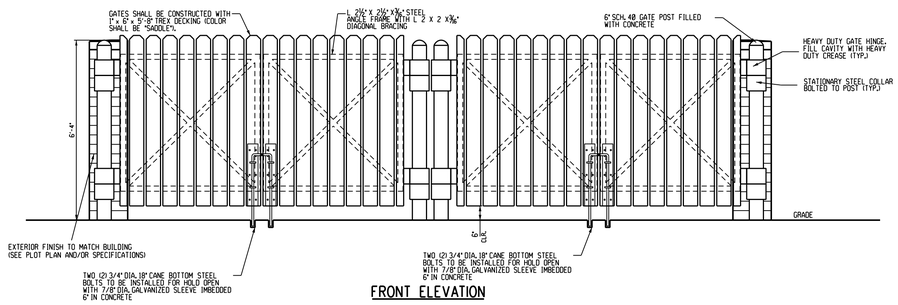
PLAN & ELEVATION

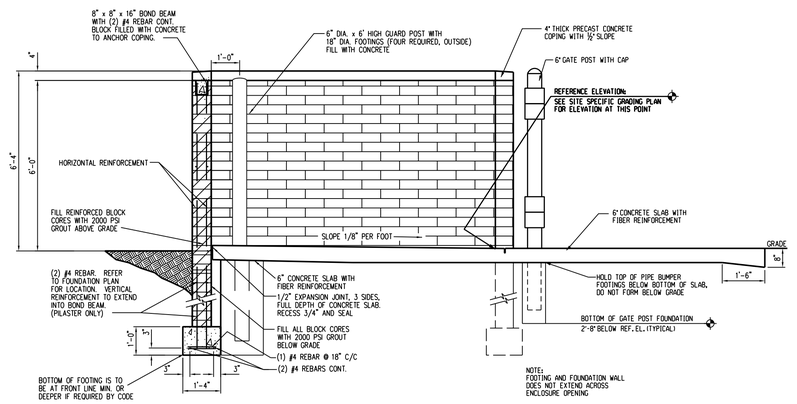


FOUNDATION PLAN



FRONT ELEVATION

SECTIONS & DETAILS



SECTION "A-A"

GENERAL NOTES

1. 8" MASONRY REINFORCEMENT TO BE PLACED BETWEEN THE FIRST TWO COURSES ABOVE THE FOOTING, EVERY OTHER COURSE THEREAFTER, AND BETWEEN THE LAST TWO COURSES AT THE TOP OF THE MASONRY. REINFORCEMENT SHALL NOT BE CONTINUOUS THROUGH CONTROL JOINTS.
2. THE MINIMUM LAP FOR BOTH CONCRETE & MASONRY SPLICES SHALL BE THE FOLLOWING:
   #4 - 2'-6"
   #5 - 3'-0"
3. CONSTRUCTION TO BE 8" X 4" x 16" QUIK-BRIK UNITS - (TO MATCH BUILDING) LAID IN RUNNING BOND.
4. REFER TO GRADING PLAN FOR PAVEMENT ELEVATIONS.
5. REFER TO DRAWING STD-SMB-1 FOR CONSTRUCTION DETAILS.

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Project # 019-00651-00

STATE OF MICHIGAN
MICHAEL E DUFFEY
ENGINEER
No. 6201044126
PROFESSIONAL ENGINEER
26 Mar 2020

Speedway®
Prepared By:
Speedway
Engineering and Construction Dept.
Elyria, OH 44035

NO.	REVISIONS	DESIGNER	PROJECT ENGINEER	DATE
1.	UPDATED QUIK BRIK, MISC. NOTE CHANGES	K.MORRIS	K.MORRIS	03/26/20

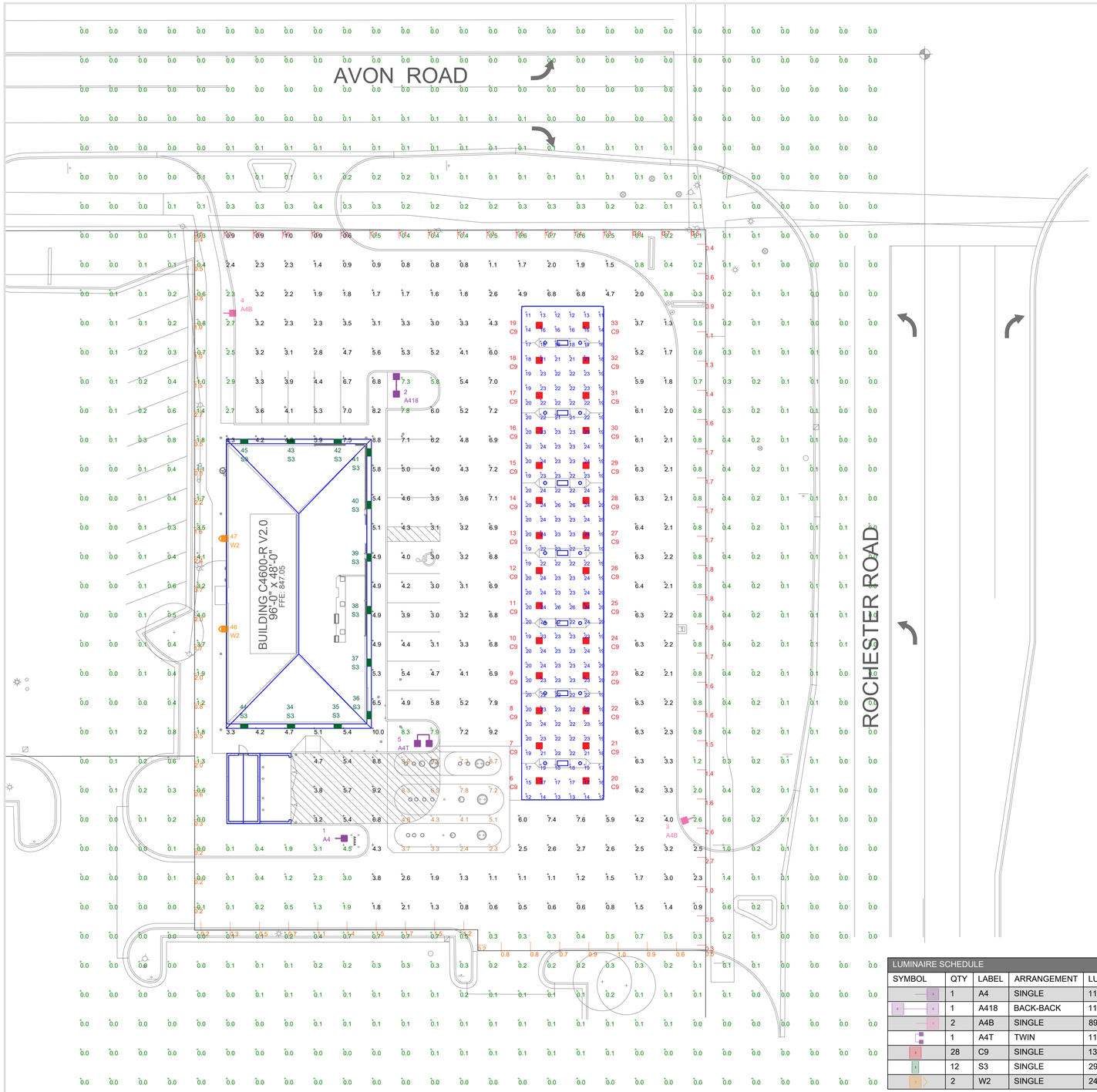
QUICK-BRIK DOUBLE DUMPSTER ENCLOSURE

SCALE 3/8" = 1'-0" (0, 1', 2')

DESIGN TEAM		DATE
DGNR.	B. ENEIX	02/01/16
PM./DP.	J. SABOURIN	02/01/16
RVR./DP.	E. NICHOLAS	02/01/16

DRWG. NO. STD-SS-QB-B3

red leonard associates
1340 Kemper Meadow Dr. | Cincinnati, OH 45240 | 513-574-9500
www.redleonard.com



NORTH

GRAPHIC SCALE

0 20 40 60 80

NOTE:
AREA LIGHTS ON NEW 15 FT. POLES MOUNTED ON 2 FT. CONCRETE BASES

LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
1	A4	17
2	A418	17
3	A4B	17
4	A4B	17
5	A4T	17
6	C9	16.5
7	C9	16.5
8	C9	16.5
9	C9	16.5
10	C9	16.5
11	C9	16.5
12	C9	16.5
13	C9	16.5
14	C9	16.5
15	C9	16.5
16	C9	16.5
17	C9	16.5
18	C9	16.5
19	C9	16.5
20	C9	16.5
21	C9	16.5
22	C9	16.5
23	C9	16.5
24	C9	16.5
25	C9	16.5
26	C9	16.5
27	C9	16.5
28	C9	16.5
29	C9	16.5
30	C9	16.5
31	C9	16.5
32	C9	16.5
33	C9	16.5
34	S3	12
35	S3	12
36	S3	12
37	S3	12
38	S3	12
39	S3	12
40	S3	12
41	S3	12
42	S3	12
43	S3	12
44	S3	12
45	S3	12
46	W2	10.5
47	W2	10.5

FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
PROPERTY LINES_VERTICAL 5 FT. A.F.G.	1.21	3.7	0.2	6.05	18.50
RIGHT OF WAY LINES_VERTICAL 5 FT. A.F.G.	1.33	2.7	0.3	4.43	9.00
SITE PAVED AREA	3.97	10.0	0.5	7.94	20.00
TANK PAD	5.93	9.9	2.3	2.58	4.30
UNDEFINED	0.27	8.3	0.0	N.A.	N.A.
UNDER CANOPY	20.62	26	11	1.87	2.36

LUMINAIRE SCHEDULE												
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	DIMMING (LUMEN MULTIPLIER)	LATF	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	DESCRIPTION
	1	A4	SINGLE	11648	0.610	1.040	0.634	B2-U0-G2	53	53	CREE, INC.	OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3
	1	A418	BACK-BACK	11648	0.610	1.040	0.634	B2-U0-G2	53	106	CREE, INC.	OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3
	2	A4B	SINGLE	8950	0.610	1.040	0.634	B1-U0-G2	53	106	CREE, INC.	OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3 w_OSQ-BLSMF
	1	A4T	TWIN	11648	0.610	1.040	0.634	B2-U0-G2	53	106	CREE, INC.	OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3
	28	C9	SINGLE	13043	0.440	1.030	0.453	B3-U0-G1	37.56	1051.68	CREE, INC.	CPY250-B-DM-F-B-UL-XX-57K-DIM (SET TO 2.8 V.)
	12	S3	SINGLE	2961	1.000	1.040	1.040	B2-U0-G1	35	420	CREE, INC.	SFT-228-5M-RM-03-E-UL-XX-350-IC
	2	W2	SINGLE	2490	1.000	1.040	1.040	B1-U0-G1	19	38	CREE, INC.	XSPW-B-WM-2ME-2L-57K-UL-XX

REV.	BY	DATE	DESCRIPTION
R1	DAR	10/16/19	REVISED TO MEET SPEEDWAY DESIGN GUIDELINES
R2	JSG	1/16/20	WALL PACKS ON BACK OF THE BUILDING WERE 3ME-4L
R3	DAR	3/23/20	REDUCED LIGHT LEVELS UNDER CANOPY AND AT R.O.W. LINES AND PROPERTY LINES
.	.	.	.

SCALE: 1" = 20'
LAYOUT BY: DAR
DWG SIZE: D
DATE: 9/27/19

PROJECT NAME:
SPEEDWAY #8832
ROCHESTER HILLS, MI
DRAWING NUMBER:
RL-6381-S1-R3

rla

AREA

PRODUCT INFORMATION

SYMBOL:	QTY:	LABEL:
	1	A4
	1	A418
	1	A4T

OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3

SYMBOL:	QTY:	LABEL:
	2	A4B

OSQ-DAXX + OSQ-A-NM-4ME-B-57K-UL-XX-Q3 W_OSQ-BLSMF

OSQ Series

OSQ™ LED Area/Flood Luminaire – Medium

Rev. Date: V21 10/23/2019

Product Description

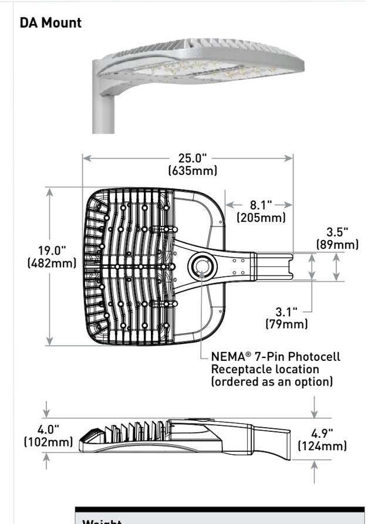
The OSQ™ Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. The 'B' Input power designator is a suitable upgrade for HID applications up to 250 Watt, and the 'K' Input power designator is a suitable upgrade for HID applications up to 400 Watt.
Applications: Parking lots, walkways, campuses, car dealerships, office complexes, tunnels, underpasses, and internal roadways

Performance Summary

- NanoOptic® Precision Delivery Grid™ optic
- Assembled in the U.S.A. of U.S. and imported parts
- **Initial Delivered Lumens:** Up to 17,291
- **Efficacy:** Up to 136 LPW
- **CRI:** Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)
- **CCT:** 3000K, 4000K, 5000K, 5700K
- **Limited Warranty†:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish/5 years on Synapse wireless control accessories/1 year on luminaire accessories

† See http://creelighting.com/warranty for warranty terms

DA Mount



Weight
28.9 lbs. (13.1kg)

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:
Example: **Mount:** OSQ-B-AASV + **Luminaire:** OSQ-A-NM-2ME-B-40K-UL-SV

Mount (Luminaire must be ordered separately)*	
OSQ-	
OSQ-B-AA Adjustable Arm **OSQ-DA** Direct Arm **OSQ-M-TSP** Transportation Mount (stainless steel; do not specify color) **OSQ-TM** Trunnion Mount	**Color Options:** **SV** Silver **BZ** Bronze **BK** Black **WH** White

* Reference EPA and pole configuration suitability data beginning on page 9

Luminaire (Mount must be ordered separately)

OSQ	A	NM						
Product	Version	Mounting	Optic	Input Power Designator	CCT	Voltage	Color Options	Options
OSQ	A	**NM** No Mount	**Asymmetric** **2ME*** Type II Medium **3ME*** Type III Medium **4ME*** Type IV Medium **Symmetric** **5ME** Type V Medium **5SH** Type V Short **WSN** Wide Sign **15D** 15° Flood **25D** 25° Flood **40D** 40° Flood **60D** 60° Flood	**B** 86W **K** 130W **Z** 53W	**30K** 3000K, 70 CRI **40K** 4000K, 70 CRI **50K** 5000K, 90 CRI **57K** 5700K, 70 CRI	**UL** Universal 120-277V **UH** Universal 347-480V - Available with B & K Input Power Designators only	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**PML** Programmable Multi-Level, up to 40' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **PML2** Programmable Multi-Level, 10-30' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **Q9/Q6/Q5/Q4/Q3/Q2/Q1** Field Adjustable Output - Must select Q9, Q6, Q5, Q4, Q3, Q2, or Q1 - Offers full range adjustability - Refer to pages 11-12 for power and lumen values - Available with B & K Input Power Designators only - Not available with PML or PML2 options **R** NEMA® 7-Pin Photocell Receptacle - 7-pin receptacle per ANSI C136.41 - Intended for downlight applications with maximum 45° tilt - Factory connected 0-10V dim leads - 18" (457mm) seven-conductor cord exits luminaire - Photocell or shorting cap by others **RL** Rotate Left - LED and optic are rotated to the left - Refer to RR/RL configuration diagram on page 13 for optic directionality **RR** Rotate Right - LED and optic are rotated to the right - Refer to RR/RL configuration diagram on page 13 for optic directionality

* Available with Backlight Shield when ordered with field-installed accessory (see table above)

CREE LIGHTING

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

OSQ™ LED Area/Flood Luminaire – Medium

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weathertight LED driver compartment and high-performance heat sink
- Convenient interlocking mounting method on direct arm mount. Mounting adaptor is rugged die cast aluminum and mounts to 3-6" (76-152mm) square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers
- Mounting for the adjustable arm mount adaptor is rugged die cast aluminum and mounts to 2" (51mm) IP, 2.375" (60mm) O.D. tenon
- Adjustable arm mount can be adjusted 180° in 2.5° increments
- Transportation mount is constructed of 316 stainless steel and mounts to surface with (4) 3/8" fasteners by others
- Trunnion mount is constructed of A500 and A1011 steel and is adjustable from 0-180° in 15° degree increments. Trunnion mount secures to surface with (1) 3/4" bolt or (2) 1/2" or 3/8" bolts
- Includes 18" (340mm) 18/5 or 16/5 cord exiting the luminaire. When ordered with R option, 18" (340mm) 18/7 or 16/7 cord is provided
- Designed for uplight and downlight applications
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available
- **Weight:** OSQ-DA: 28.9 lbs. (13.1kg); OSQ-B-AA: 28.4 lbs. (12.9kg); OSQ-M-TSP: 42 lbs. (19.1kg); OSQ-TM: 32.6 lbs. (14.8kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Consult factory if in-luminaire fusing is required
- Designed with 0-10V dimming capabilities. Controls by others
- Refer to Dimming spec sheet for details
- **Maximum 10V Source Current:** 1.0mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without R option
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards with AA, DA, TM, and TSP mounts
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- DLC and DLC Premium qualified versions available with 70 CRI. Some exceptions apply. Please refer to https://www.designlights.org/search/ for most current information
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT and direct or transportation mounts only. Please refer to https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/ for most current information
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Product Specifications

SYNAPSE® SIMPLYSNAP INTELLIGENT CONTROL

The Synapse SimplySNAP platform is a highly intuitive connected lighting solution featuring zone dimming, motion sensing, and daylight harvesting with utility-grade power monitoring and support of up to 1000 nodes per gateway. The system features a reliable and robust self-healing mesh network with a browser-based interface that runs on smartphones, tablets, and PCs. The Twist-Lock Lighting Controller (TL7-B2) and Site Controller (SS450-002) take the OSQ Series to a new performance plateau, providing extreme energy productivity, code compliance and a better light experience.

Electrical Data*

Input Power Designator	System Watts 120-480V	Total Current (A) 120V	208V	240V	277V	347V	480V
B	86	0.73	0.43	0.37	0.32	0.25	0.19
K	130	1.09	0.65	0.56	0.49	0.38	0.28
Z	53**	0.46	0.26	0.22	0.19	N/A	N/A

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/-10%
** Available with UL voltage only

OSQ Series Ambient Adjusted Lumen Maintenance[1]

Ambient	Optic	Initial LMF	25K hr Reported[2] LMF	50K hr Reported[2] LMF	75K hr Reported[2]/ Estimated[3] LMF	100K hr Reported[2]/ Estimated[3] LMF
5°C (41°F)	Asymmetric	1.04	1.02	1.01	1.00[3]	0.99[3]
	Symmetric	1.05	1.04	1.03	1.03[2]	1.02[2]
10°C (50°F)	Asymmetric	1.03	1.01	1.00	0.99[3]	0.98[3]
	Symmetric	1.04	1.03	1.02	1.01[2]	1.00[2]
15°C (59°F)	Asymmetric	1.02	1.00	0.99	0.98[3]	0.97[3]
	Symmetric	1.02	1.02	1.01	1.00[2]	0.99[2]
20°C (68°F)	Asymmetric	1.01	0.99	0.98	0.97[3]	0.96[3]
	Symmetric	1.01	1.01	1.00	0.99[2]	0.98[2]
25°C (77°F)	Asymmetric	1.00	0.98	0.97	0.96[3]	0.95[3]
	Symmetric	1.00	0.99	0.98	0.98[2]	0.97[2]

[1] Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions.
[2] In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.
[3] Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

Accessories

Field-Installed		
Backlight Shield OSQ-BLSMF – Front facing optics OSQ-BLSMR – Rotated optics	**Hand-Held Remote** XA-SENSREM – For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required	**Bird Spikes** OSQ-MED-BRDSPK
Synapse Wireless Control Accessories		
Twist-Lock Lighting Controller TL7-B2 - Suitable for 120-277V (UL) voltage only - Requires NEMA/ANSI C136.41 7-Pin Dimming Receptacle - Not for use with PML or Q options - Provides On/Off switching, dimming, power metering, digital sensor input, and status monitoring of luminaires	**SimplySNAP On-Site Controller** SS450-002 - Verizon® LTE-enabled - Designed for indoor applications **Building Management System (BMS) Gateway** BMS-GW - Required for BACNET integration **Outdoor Antennas (Optional, for increased range, 8dB gain)** KIT-ANT4205M - Kit includes antenna, 20' cable and bracket KIT-ANT360 - Kit includes antenna, 30' cable and bracket KIT-ANT600 - Kit includes antenna, 50' cable and bracket	

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

CANOPY

PRODUCT INFORMATION

SYMBOL:	QTY:	LABEL:
	28	C9

CPY250-B-DM-F-B-UL-XX-57K-DIM (SET TO 2.8 V.)

CPY Series - Version B

CPY250® LED Canopy/Soffit Luminaire

Rev. Date: V14 06/03/2019

Product Description

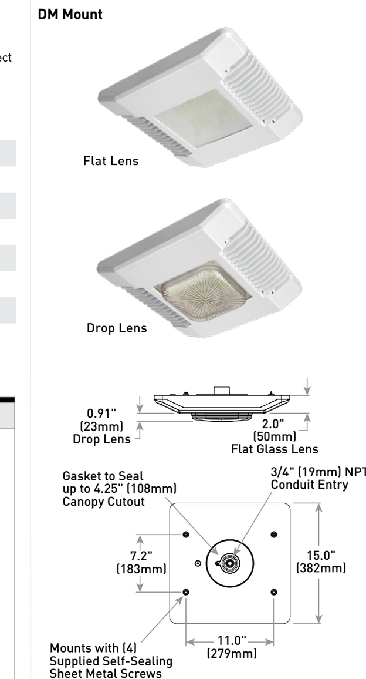
The CPY250® LED Canopy/Soffit Luminaire has an extremely thin profile constructed of rugged cast aluminum. It can be surface mounted easily from below the canopy deck and can be pendant mounted. Direct imaging of the LEDs is eliminated with a highly efficient patterned flat or 0.91" (23mm) drop glass lens.
Applications: Petroleum canopies, CNG fueling stations, soffits

Performance Summary

- Assembled in the U.S.A. of U.S. and imported parts
- **Initial Delivered Lumens:** Up to 20,080
- **Efficacy:** Up to 151 LPW
- **CRI:** Minimum 70 CRI
- **CCT:** 3000K (+/- 300K), 4000K (+/- 300K), 5700K (+/- 500K)
- **Limited Warranty†:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish
- IP66 Rated (Direct Mount only)
- Class I, Division 2 Hazardous Location for select models

† See http://creelighting.com/warranty for warranty terms

DM Mount



Weight
12.5 lbs. (5.7kg)

Accessories

Field-Installed	
Direct Mount Luminaires **Canopy Upgrade Kits (18 ga. steel, except where noted)** CPY-AP304* - for use with Cree Lighting CAN-304 luminaires, 16 ga. 5052 aluminum XA-BXCCMW – for use with Jet-Philips, 21.60" (549mm) square, white XA-BXCCNW – for use with Elsco Franciscan, 22.06" (560mm) square, white XA-BXCCPW – for use with LSI Dakota or Masters, 22.50" (572mm) square, white XA-BXCCQW – for use with Whiteway Riviera or Rig-A-Lite, 20.60" (523mm) square, white XA-BXCCRW – for use with Elsco Merrit, 18.06" (459mm) square, white XA-BXCCSW – for use with LSI Richmond or Whiteway Civic, 23.00" (584mm) L x 13.00" (330mm) W, white **Direct Mount Junction Box/Stem Kit** XA-BXCCJBOX – 6.0" (152mm) H x 3/4" (19mm) NPT Stem - Watertight - Rated for feed through 8 (4 in, 4 out) #12 AWG conductors **Direct Mount Beauty Plates** XA-BXCCBPW – 26.17" (665mm) Beauty Plate Only (18 ga. steel), white XA-BXCCBPB12W – 26.17" (665mm) Beauty Plate (18 ga. steel) w/12" (305mm) Backer Plate (16 ga. steel), white - For use in canopies where deck opening is larger than what is required for mounting the CPY250 luminaire. Maximum deck opening 10.75" x 15" (183mm x 375mm) XA-BXCCBPB16W – 26.17" (665mm) Beauty Plate (18 ga. steel) w/16" (406mm) Backer Plate (16 ga. steel), white - For use in canopies where deck opening is larger than what is required for mounting the CPY250 luminaire. Maximum deck opening 12" x 15" (305mm x 375mm)	**Pendant Mount Luminaires** **Pendant Mount Kits** XA-PS12KIT* – 5" (127mm) pendant XA-PS18KIT* – 11" (279mm) pendant XA-PS22KIT* – 15" (381mm) pendant - Includes two conduit fittings and 3/4-14 NPT pipe threaded on two ends **Hand-Held Remote** XA-SENSREM - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

* Must specify color: BK (Black), BZ (Bronze), SV (Silver) or WH (White)

Ordering Information

Example: CPY250-B-DM-D-A-UL-SV

CPY250	B							
Product	Version	Mounting	Optic	Input Power Designator	Voltage	Color Options	CCT	Options
CPY250	B	**DM** Direct **HC** Hook & Cord **PD** Pendant	**D** 0.91" (23mm) Drop Lens **F** Flat Lens	**A** 60W **B** 96W **C** 31W **E** 145W **F** 85W	**UL** Universal 120-277V **UH** Universal 347-480V - Available with B, E & F input power designators only **34*** 347V - A & C input power designators only **48*** 480V - A & C input power designators only	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**30K** 3000K **40K** 4000K **57K** 5700K	**DIM** 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed wattage of specified Input Power Designator **HZ** Class I, Div. 2 Hazardous Location Certification - Available with DM and PD mounts only - A & C input power designators are available for DM and PD mounts except PD mount with 34 & 48 voltages in Canada - Not available with K or PML options **K** NSF 2 Certification - Luminaires include NSF certification mark - Available with the DM mount only - Not available with the HZ or PML options **PML** Programmable Multi-Level - Available with UL voltage only - Refer to PML spec sheet for details

* 347 and 480V with A & C input power designators utilize a magnetic step-down transformer. For input power for 347 and 480V, refer to the Electrical Data table

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CREE LIGHTING

CPY250® LED Canopy/Soffit Luminaire - Version B

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Easy mounting and servicing from below the deck
- Luminaire housing is constructed of rugged cast aluminum with integral heat sink specifically designed for LED
- Flat lens is 0.125" tempered Solite® glass
- Drop lens is 0.157" molded borosilicate glass
- Direct mount is suitable for use in single or double skin canopies with a minimum 4.0" (102mm) wide panels and a minimum 22 gauge, 0.030" (0.7mm) canopy thickness
- Direct mount luminaire mounts directly to the canopy deck with the drilling of a single 2" to 4" (51mm to 102mm) round hole, is secured in place with self-sealing screws that provide a weathertight seal and includes 3/4" (19mm) conduit entry for direct wire feed
- Hook and cord mount includes a 3' (0.91m) cord out of the luminaire and is intended to hang from the single hook
- Standard pendant mount includes a mounting bracket and a J-Box for customer wiring and is intended to be mounted by 3/4 IP pendant (by others)
- Hazardous location pendant mount has a threaded hub which accepts 3/4" NPT conduit (by others) and secures with a 1/4"-20 set screw
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver and white are available
- **Weight:** 12.5 lbs. (5.7kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 6kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current

CONTROLS

- Continuous dimming to 10% with 0-10V DC control protocol
- **10V Source Current:** 0.15mA
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference LED Dimming spec sheet for additional dimming information

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations when ordered with DM mount. Covered ceiling required only when not used with cULus Listed, wet location junction box or XA-BXCCJBOX accessory
- Suitable for damp locations when ordered with HC and PD mounts. Designed for indoor use only
- Suitable for wet locations when ordered with PD mount and HZ option
- Enclosure rated IP66 per IEC 60529 when ordered with DM mount
- Consult factory for CE Certified products
- 6kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Class I, Division 2 Hazardous Location rated when ordered with the DM or PD mount and the HZ option. A & C input power designators are available for DM and PD mounts except PD mount with 34 & 48 voltages in Canada. Not available with K or PML options. Rated for Groups A, B, C & D. Bears a T3C (160°C) temperature classification within a 25°C ambient
- NSF Certified when ordered with DM mount and K option. Not available with HZ or PML options. Refer to http://info.nsf.org/Certified/Food/ for additional details
- DLC and DLC Premium qualified versions available. Please refer to https://www.designlights.org/search/ for most current information
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT and Flat Lens (F)
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

Input Power Designator	System Watts 120-277V	System Watts 347-480V; 347/480V	Total Current (A) 120V	208V	240V	277V	347V	480V
A	60	68	0.51	0.29	0.25	0.22	0.20	0.14
B	96	96	0.82	0.47	0.40	0.35	0.28	0.20
C	31	33	0.26	0.15	0.13	0.11	0.10	0.07
E	145	145	1.22	0.70	0.61	0.53	0.42	0.30
F	85	85	0.72	0.41	0.36	0.31	0.24	0.18

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%

CPY Series - Version B Ambient Adjusted Lumen Maintenance[1]

Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
5°C (41°F)	1.03	1.00	0.96	0.93	0.90
10°C (50°F)	1.02	0.99	0.95	0.92	0.89
15°C (59°F)	1.02	0.99	0.95	0.92	0.89
20°C (68°F)	1.01	0.98	0.95	0.91	0.88
25°C (77°F)	1.00	0.97	0.94	0.90	0.87
30°C (86°F)	0.99	0.96	0.93	0.90	0.87

[1] Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing on sheet metal. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions
[2] In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)
[3] In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

Operating Temperature Range

Input Power Designator	Direct Mount to Plywood	Direct Mount to Sheet Metal/ Suspended	Class 1, Division 2 Hazardous Location: Direct Mount to Plywood	Direct Mount to Sheet Metal/Suspended
A	-40°C to +40°C	-40°C to +45°C	-40°C to +25°C	
B	-40°C to +35°C	-40°C to +40°C		
C	-40°C to +45°C	-40°C to +50°C		
E	-40°C to +35°C	-40°C to +40°C		
F	-40°C to +40°C	-40°C to +45°C		

WARNING: Exceeding maximum operating temperature may result in thermal foldback

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CREE LIGHTING

SOFFIT

PRODUCT INFORMATION

SYMBOL:	QTY:	LABEL:
	12	S3

SFT-228-5M-RM-03-E-UL-XX-350-IC

228 Series™

LED Soffit Luminaire – IC Rated

Product Description

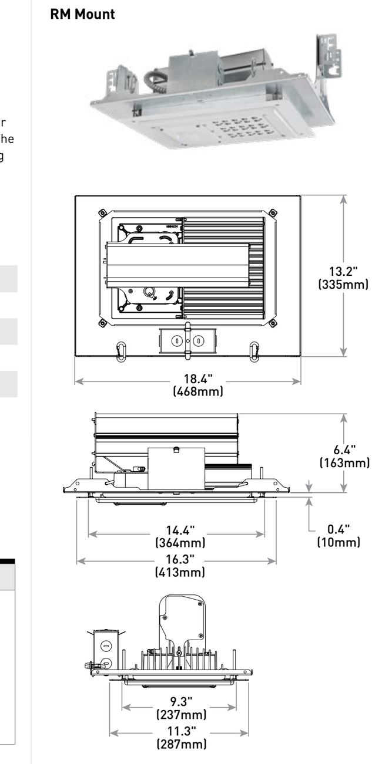
High performance energy-efficient LED down light designed for use in new construction or remodel applications where there is direct contact with insulation. The recessed mount is for use in drywall, plywood or hard lid ceilings with 16" (406mm) to 24" (610mm) on center building construction. Heavy gauge steel recessed mounting frame features 1.5" (38mm) deep aperture throat to accommodate most standard ceiling thicknesses, and a universal mounting bracket that accepts 0.5" (13mm) EMT conduit, C-channel mounting bars or flat bar hangers with 5" (127mm) vertical adjustment from either above or below the ceiling. An oversized junction box is listed for eight #12 AWG feed through wires. The recessed remodel mount is entirely supported by the ceiling material and is designed to accept ceiling thickness from 0.375" (10mm) to 2.25" (57mm) and is an ideal replacement for recessed 12" (305mm) square HID luminaires.
Applications: Petroleum canopies, soffits, indoor retail or industrial spaces

Performance Summary

- Patented NanoOptic® Product Technology
- Made in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI
- **CCT:** 4000K (+/- 300K), 5700K (+/- 500K) standard
- **Limited Warranty†:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

† See http://lighting.cree.com/warranty for warranty terms

RM Mount



LED Count (x10)	Weight
03	28.7 lbs. (13.0kg)

RR Mount - see page 3 for weight & dimensions

Accessories

Field-Installed	
RM Mount Accessories **Mounting C-Channel** XA-MC14 - Pair of 14" (356mm) rigid 3/4" x 1/2" (19mm x 13mm) galvanized C-Channel bars XA-MC22 - Pair of 22" (559mm) rigid 3/4" x 1/2" (19mm x 13mm) galvanized C-Channel bars XA-MC30 - Pair of 30" (762mm) rigid 3/4" x 1/2" (19mm x 13mm) galvanized C-Channel bars	**Hanger Bar** **Mounting Brackets** XA-MB4 - Kit contains 4

Ordering Information

Example: SFT-228-SL-RM-03-E-UL-WH-350

SFT-228			03	E			350	IC
Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
SFT-228	**SL** Sparkle Petroleum **PS** Petroleum Symmetric	**RM** Recessed **RR** Recessed Remodel	03	E	**UL** Universal 120-277V **UH** Universal 347-480V	**BK** Black **BZ** Bronze **WH** White	**350** 350mA	**IC** IC Rated **40K** 4000K Color Temperature - Color temperature per luminaire - Minimum 70 CRI

Rev. Date: V2 10/02/2018

US: lighting.cree.com T (800) 236-6800 F (262) 504-5415
Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

CREE

228 Series™ LED Soffit Luminaire – IC Rated

Product Specifications

CONSTRUCTION & MATERIALS

- Luminaire sides are rugged die cast aluminum with high performance extruded aluminum heat sinks specifically designed for high power LEDs, factory assembled to the trim and wired to the driver
- Driver compartment is constructed of anodized extruded aluminum for exceptional thermal performance
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze and white are available
- **Weight:** See Weight Chart on pages 1 and 3

RM

- High performance energy-efficient LED down light, designed for use in new construction applications with drywall, plywood or hard lid ceilings and 16" (406mm) to 24" (610mm) on center building construction
- Heavy gauge steel recessed mounting frame features 1.5" (38mm) deep aperture throat to accommodate most standard ceiling thicknesses, and a universal mounting bracket that accepts 0.5" (13mm) EMT conduit, C-channel mounting bars or flat bar hangers with 5" (127mm) vertical adjustment from either above or below the ceiling includes an oversized junction box is listed for eight #12 AWG feed through wires

RR

- High performance energy-efficient LED down light, designed for remodel application
- Entirely supported by the ceiling material and is designed to fit through 12" (305mm) x 12" (305mm) opening
- Accepts ceiling thicknesses from 0.375" (10mm) to 2.25" (57mm)
- An ideal replacement for 12" (305mm) x 12" (305mm) recessed HID luminaires

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations under covered ceilings
- Meets FCC Part 15 standards for conducted and radiated emissions
- Consult factory for CE Certified products
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Type IC in accordance with Article 410 of the NEC and UL 1598, suitable for direct contact with insulation
- RM mount listed for eight #12 AWG, 75°C rated through branch circuit wires
- Meets Buy American requirements within ARRA
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

LED Count (x10)	System Watts 120-480V	Total Current 120V	208V	240V	277V	347V	480V
350mA							
03	34	0.30	0.19	0.18	0.20	0.11	0.09

* Electrical data at 25°C (77°F)

Recommended 228 Series™ Luminaire Lumen Maintenance Factors (LMF)[1]

Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
5°C (41°F)	1.04	0.99	0.97	0.95	0.93
10°C (50°F)	1.03	0.98	0.96	0.94	0.92
15°C (59°F)	1.02	0.97	0.95	0.93	0.91
20°C (68°F)	1.01	0.96	0.94	0.92	0.90
25°C (77°F)	1.00	0.95	0.93	0.91	0.89

[1] Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
[2] In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)
[3] In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

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CREE

WALL MOUNTED

PRODUCT INFORMATION

SYMBOL:	QTY:	LABEL:
	2	W2

XSPW-B-WM-2ME-2L-57K-UL-XX

XSP Series

XSPW™ LED Wall Mount Luminaire featuring Cree TrueWhite® Technology

Rev. Date: VersionB V3 07/31/2019

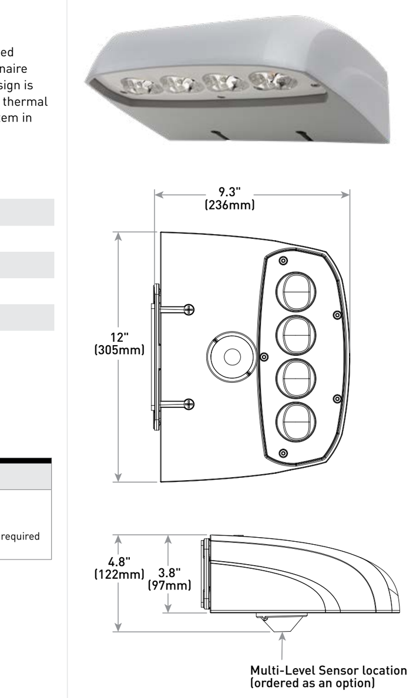
Product Description

The XSPW™ LED wall mount luminaire has a slim, low profile design intended for outdoor wall mounted applications. The rugged lightweight aluminum housing and mounting box are designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes. The luminaire allows for through-wired or conduit entry from the top, bottom, sides and rear. The housing design is intended specifically for LED technology including a weathertight LED driver compartment and thermal management. Optic design features industry-leading NanoOptic® Precision Delivery Grid™ system in multiple distributions.
Applications: General area and security lighting

Performance Summary

- NanoOptic® Precision Delivery Grid™ optic
- Assembled in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)
- **CCT:** 3000K, 4000K, 5000K, 5700K
- **Limited Warranty†:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

† See http://creelighting.com/warranty for warranty terms



Lumen Package	Weight
2L, 4L, 6L	11.0 lbs. (5.0kg)
8L	11.8 lbs. (5.4kg)

Accessories

Field-Installed	
Beauty Plate WM-PLT12** - 12" (305mm) Square WM-PLT14** - 14" (356mm) Square - Covers holes left by incumbent wall packs	**Hand-Held Remote** XA-SENSREM - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

** Must specify color

Ordering Information

Example: XSPW-B-WM-2ME-2L-30K-UL-BK

XSPW	B	WM						
Product	Version	Mounting	Optic	Lumen Package*	CCT	Voltage	Color Options	Options
XSPW	B	**WM** Wall	**2ME** Type II Medium **3ME** Type III Medium **4ME** Type IV Medium	**2L** 2,490 lumens **4L** 4,270 lumens **6L** 6,100 lumens **8L** 8,475 lumens	**30K** 3000K - 70 CRI **40K** 4000K - 70 CRI **50K** 5000K - 90 CRI **57K** 5700K - 70 CRI	**UL** Universal 120-277V **UH** Universal 347-480V **34** 347V - For use with P option only	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**ML** Multi-Level - Refer to ML spec sheet for details - Available with UL voltage only **P** Button Photocell - Not available with ML or PML option - Available with UL and 34 voltages only **PML** Programmable Multi-Level - Refer to PML spec sheet for details - Available with UL voltage only

* Lumen Package selection codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

CREE TRUE WHITE TECHNOLOGY

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

XSPW™ LED Wall Mount Luminaire

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire housing specifically designed for LED applications with advanced LED thermal management and driver
- Luminaire mounting box designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes
- Luminaire can also be direct mounted to a wall and surface wired
- Secures to wall with four 3/16" (5mm) screws (by others)
- Conduit entry from top, bottom, sides, and rear
- Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, black, white and bronze are available
- **Weight:** 2L, 4L, 6L - 11.0 lbs. (5.0kg); 8L - 11.8 lbs. (5.4kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Controls by others
- **10V Source Current:** 0.15 mA
- **Operating Temperature Range:** -40°C - +50°C (-40°F - +122°F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Designed for downlight applications only
- Enclosure rated IP66 per IEC 60598
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT
- DLC and DLC Premium qualified versions available. Please refer to https://www.designlights.org/search/ for most current information
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

Lumen Package	CCT/CRI	System Watts 120-480V	Efficacy	Total Current (A) 120V	208V	240V	277V	347V	480V
2L	30K/70 CRI	20	125	0.17	0.10	0.08	0.07	0.06	0.05
	40K/70 CRI	19	131	0.16	0.09	0.08	0.07	0.06	0.04
	50K/90 CRI	24	104	0.20	0.11	0.10	0.08	0.07	0.05
	57K/70 CRI	19	131	0.16	0.09	0.08	0.07	0.06	0.04
4L	30K/70 CRI	33	129	0.28	0.16	0.14	0.13	0.10	0.07
	40K/70 CRI	31	138	0.27	0.15	0.13	0.12	0.09	0.07
	50K/90 CRI	40	107	0.34	0.20	0.17	0.16	0.12	0.09
	57K/70 CRI	31	138	0.26	0.15	0.13	0.12	0.09	0.07
6L	30K/70 CRI	51	120	0.43	0.25	0.22	0.19	0.14	0.11
	40K/70 CRI	47	130	0.40	0.23	0.20	0.18	0.14	0.10
	50K/90 CRI	60	102	0.51	0.29	0.25	0.23	0.17	0.13
	57K/70 CRI	47	130	0.40	0.23	0.20	0.17	0.14	0.10
8L	30K/70 CRI	77	110	0.65	0.38	0.32	0.28	0.22	0.16
	40K/70 CRI	72	118	0.61	0.35	0.31	0.27	0.21	0.15
	50K/90 CRI	78	89	0.66	0.37	0.33	0.29	0.22	0.16
	57K/70 CRI	71	119	0.60	0.35	0.30	0.26	0.20	0.15

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347- 480V +/- 10%

XSPW Series Ambient Adjusted Lumen Maintenance Factors[1]

Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
0°C (32°F)	1.05	1.00	0.98	0.96	0.94
5°C (41°F)	1.04	1.00	0.98	0.96	0.94
10°C (50°F)	1.03	0.99	0.97	0.95	0.93
15°C (59°F)	1.02	0.98	0.96	0.94	0.92
20°C (68°F)	1.01	0.97	0.95	0.93	0.91
25°C (77°F)	1.00	0.96	0.94	0.92	0.90
30°C (86°F)	0.99	0.95	0.93	0.91	0.89
35°C (95°F)	0.98	0.94	0.92	0.90	0.88
40°C (104°F)	0.97	0.93	0.91	0.89	0.87

[1] Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions
[2] In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)
[3] In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

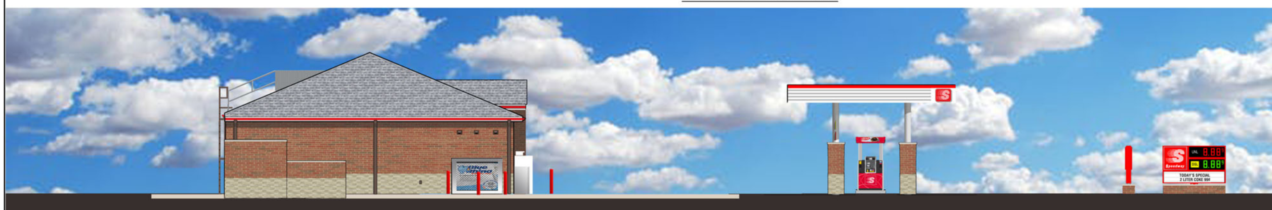
US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

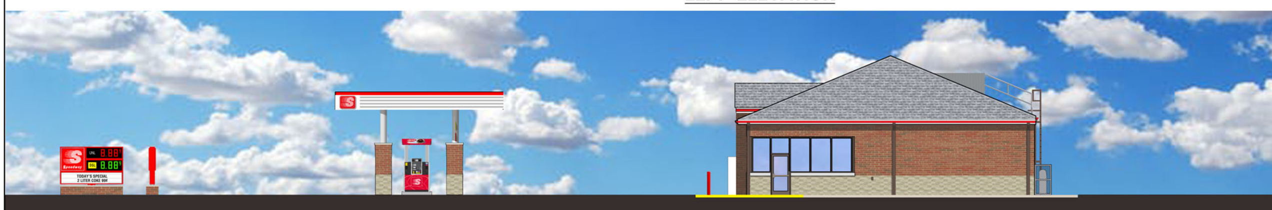
DLC REBATES
CREE WARRANTY INFO
ADDITIONAL PRODUCTS

FRONT ELEVATION

REAR ELEVATION



LEFT ELEVATION



RIGHT ELEVATION

Primary Material Breakout (Canopy)	
Front Elevation	
	Square Footage
ACM PANEL (White)	435
ACM PANEL (Red)	72.375
Brick Column Wrap	3584
Total	
Rear Elevation	
	Square Footage
ACM PANEL (White)	435
ACM PANEL (Red)	72.375
Brick Column Wrap	3584
Total	
Left Elevation	
	Square Footage
ACM PANEL (White)	73.5
ACM PANEL (Red)	10.5
Brick Column Wrap	3584
Total	
Right Elevation	
	Square Footage
ACM PANEL (White)	73.5
ACM PANEL (Red)	10.5
Brick Column Wrap	3584
Total	

Primary Material Breakout (Building)	
Front Elevation	
	Square Footage
Brick	721
Glass Storefront	431
Total	1152
Rear Elevation	
	Square Footage
Brick	1131
Egress Door	21
Total	1152
Left Elevation	
	Square Footage
Brick	576
Total	576
Right Elevation	
	Square Footage
Brick	454
Glass Storefront	122
Total	576

Speedway®

Prepared By:
Speedway
Engineering and Construction Dept.
Enon, OH 45323

NO.	REVISIONS	DESIGNER DATE	PROJ. MGR. DATE	REVIEWER DATE
1				

BUILDING ELEVATION
NEW BUILD

1010 S. ROCHESTER RD
OAKLAND COUNTY
ROCHESTER HILLS, MI

STORE OR BLDG NO.	8832
VERSION OR PROJECT ID	4600 V2
SCALE	0 8' 1/8" = 1'-0"

DESIGN TEAM		DATE
DGNR.	A. WILLIS	03/26/20
P.MGR.		
RVWR.		
DRWG. NO.	8832 - ELEV	