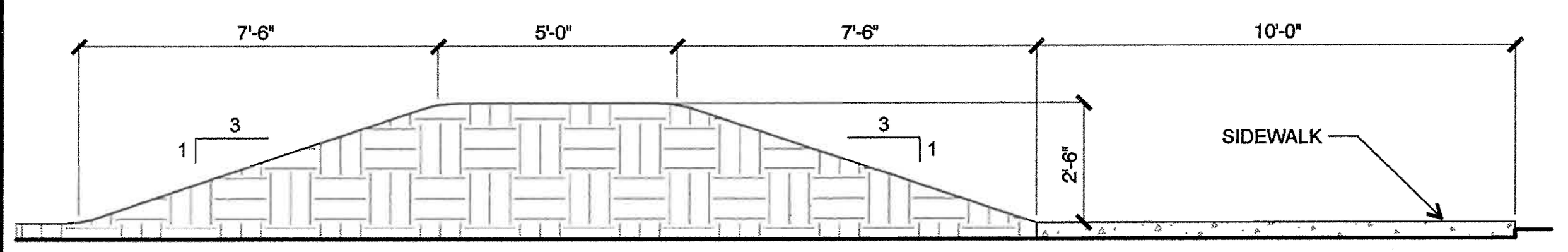
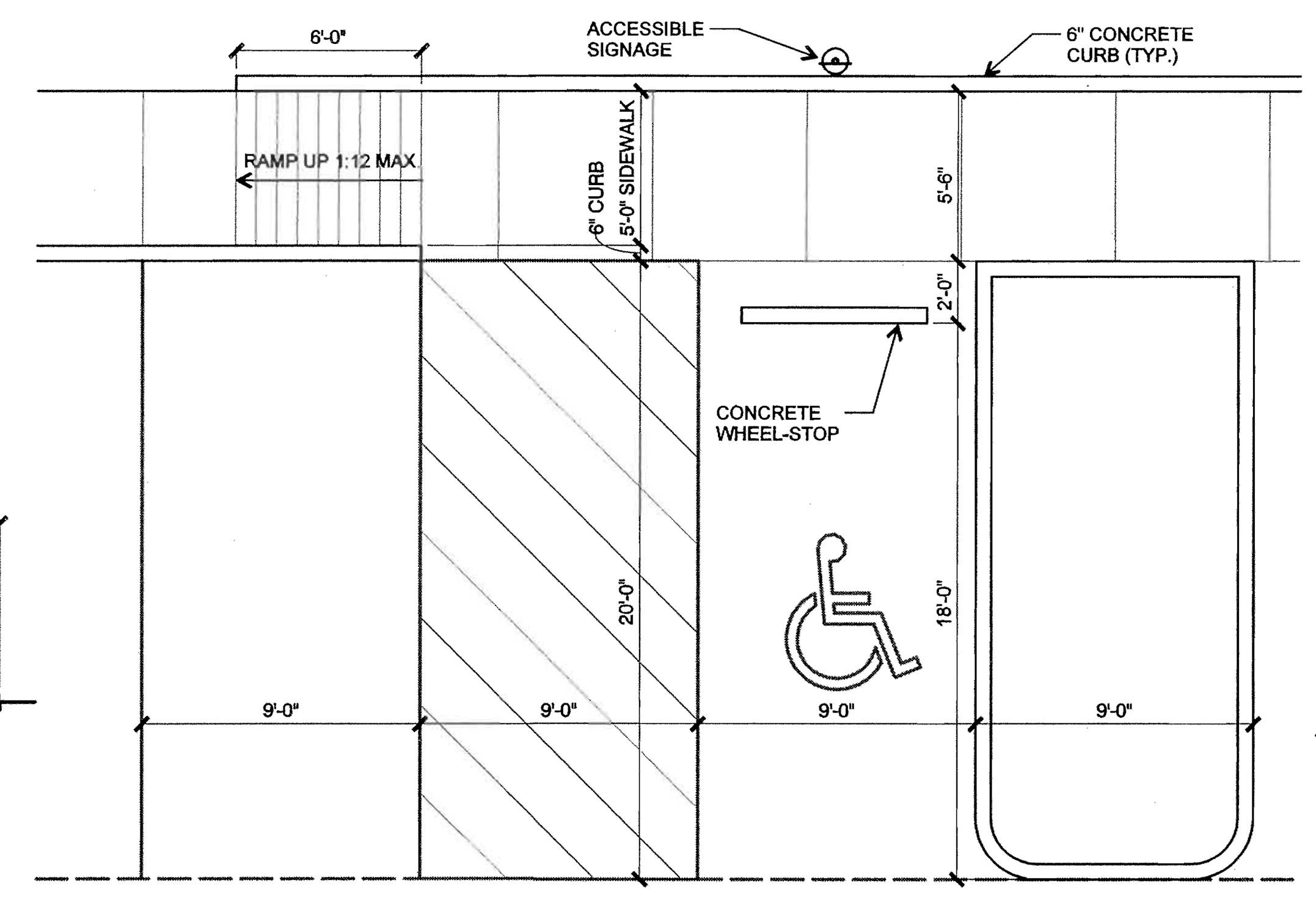
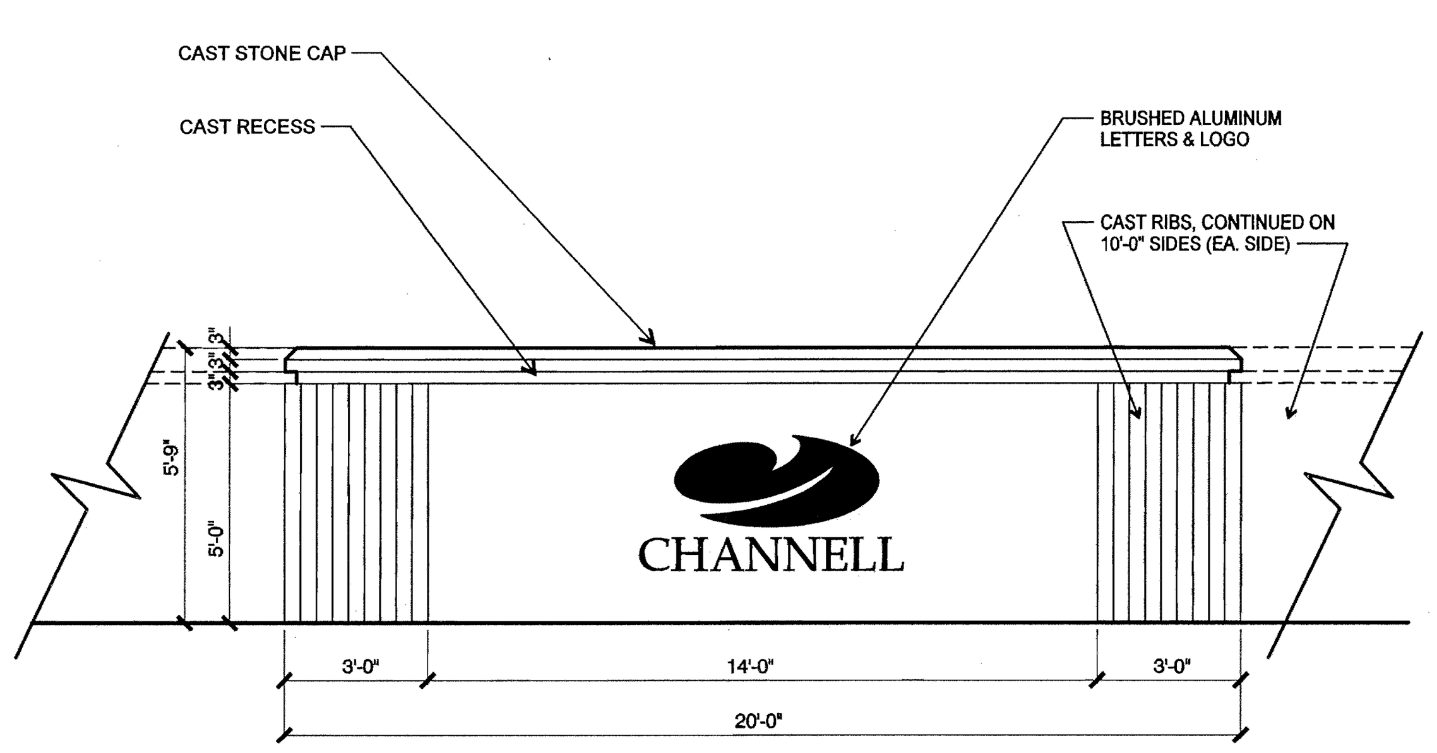


5 BERM SECTION
SCALE: 1/2"=1'-0"



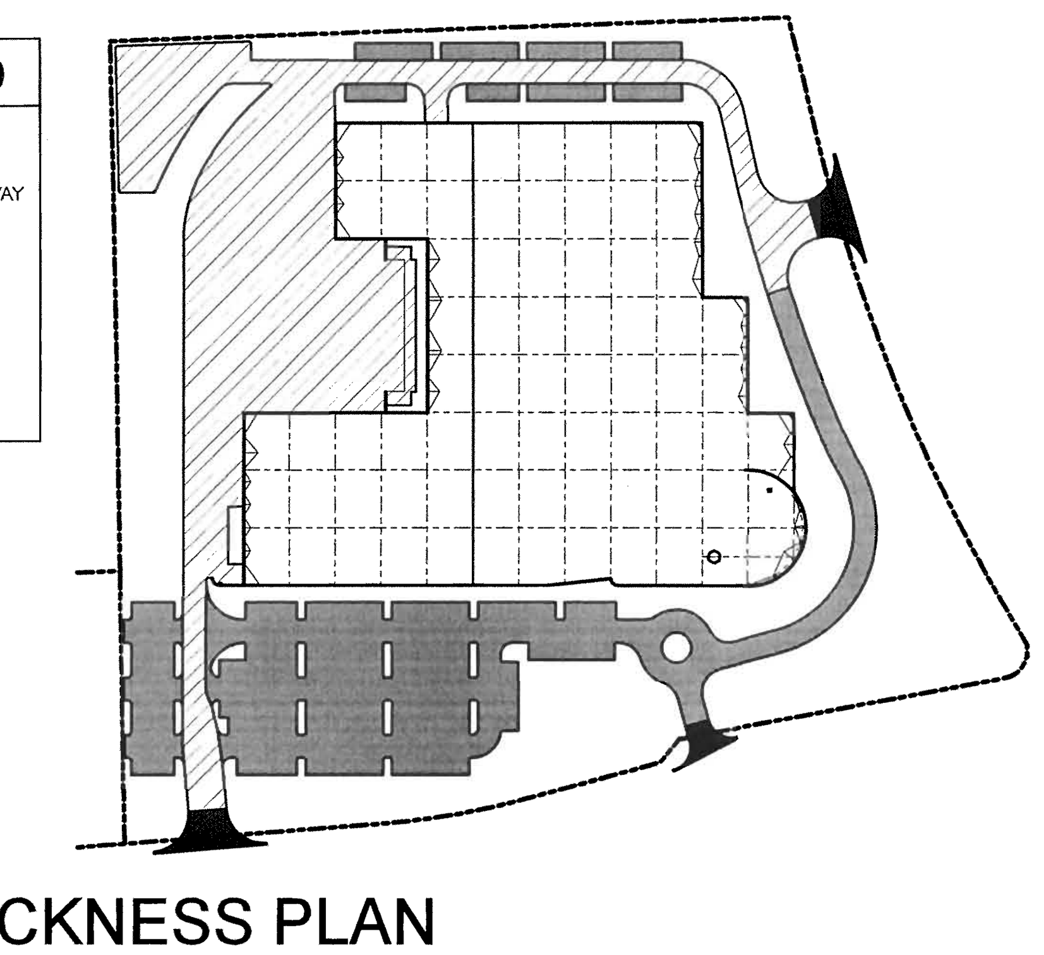
4 TYPICAL PARKING PLAN
SCALE: 1/4"=1'-0"



3 ELEVATION AT MONUMENT SIGN
SCALE: 1/2"=1'-0"

PAVING THICKNESS LEGEND

(light shading)	5" THK 3000 PSI CONCRETE W/ #3 BARS @ 24" O.C. EACH WAY
(hatched)	6" THICK (MIN.) 3600 PSI CONCRETE W/ #3 BARS @ 24" O.C. EACH WAY (VERIFY WITH GEO-TECH)
(dark)	AS REQUIRED BY CITY OF ROCKWALL



2 PAVING THICKNESS PLAN
SCALE: 1"=200'-0"

PROJECT LEGEND

CURRENT OWNER
ROCKWALL ECONOMIC DEVELOPMENT CORPORATION
ATTN: SHERI FRANZA
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ROCKWALL, TEXAS 75032
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F: 972.771.8828

PROPOSED OWNER / DEVELOPER
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P. O. BOX 9022
TEMECULA, CALIFORNIA 92589
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F: 951.296.2322

ARCHITECT
PROSS DESIGN GROUP
ATTN: FRANK RICHARDSON
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DALLAS, TEXAS 75230
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F: 972.759.1405

CIVIL ENGINEER
PACHECO KOCH
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DALLAS, TEXAS 75206
P: 972.235.3031

LANDSCAPE ARCHITECT
BELLE FIRMA
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DALLAS, TEXAS 75205
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ELECTRICAL ENGINEER / CONTRACTOR
FOX ELECTRIC
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1104 COLORADO LANE
ARLINGTON, TEXAS 76015
P: 817.461.2571

GENERAL CONTRACTOR
BOB MOORE CONSTRUCTION
ATTN: KYLE WHITESELL
1101 NORTH WATSON ROAD
ARLINGTON, TEXAS 76011
P: 817.640.1200

PROJECT DATA

SITE DATA

LAND AREA	825,439 SF / 18.95 AC
TOTAL IMPERVIOUS AREA (50.87%)	419,872 SF / 9.64 AC
TOTAL LANDSCAPED AREA (49.13%)	405,567 SF / 9.31 AC
BUILDING COVERAGE	27.37%

BUILDING DATA

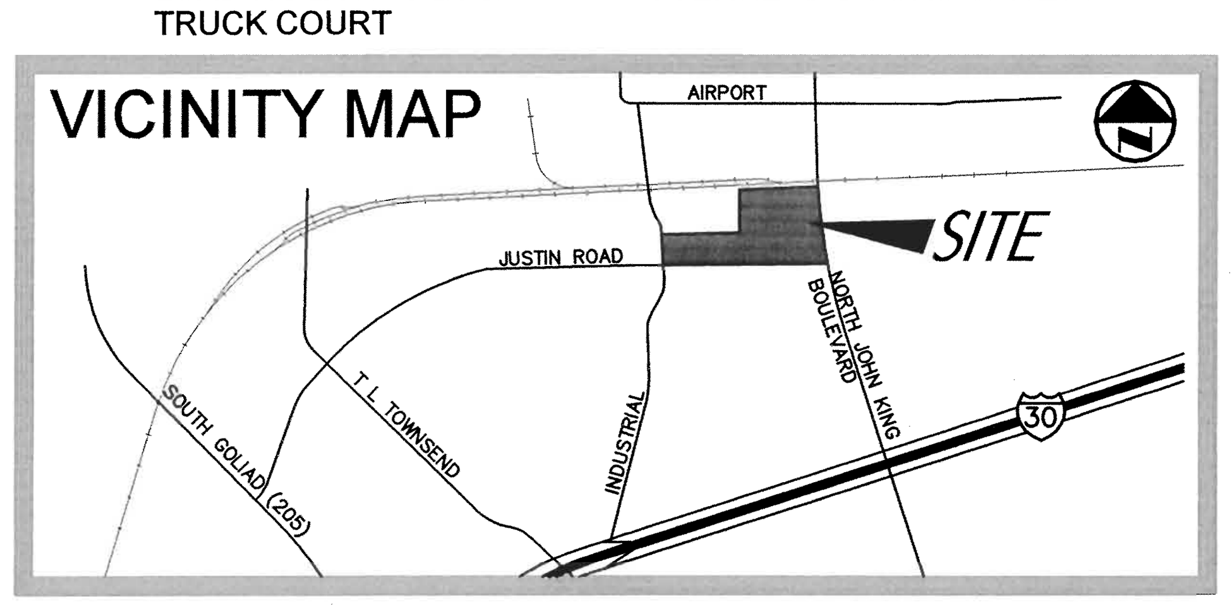
FIRST FLOOR OFFICE/SUPPORT AREA	18,508 SF
MANUFACTURING AREA	93,758 SF
WAREHOUSE AREA	93,758 SF
SECOND FLOOR OFFICE/SUPPORT AREA	19,886 SF
TOTAL BUILDING AREA	225,910 SF

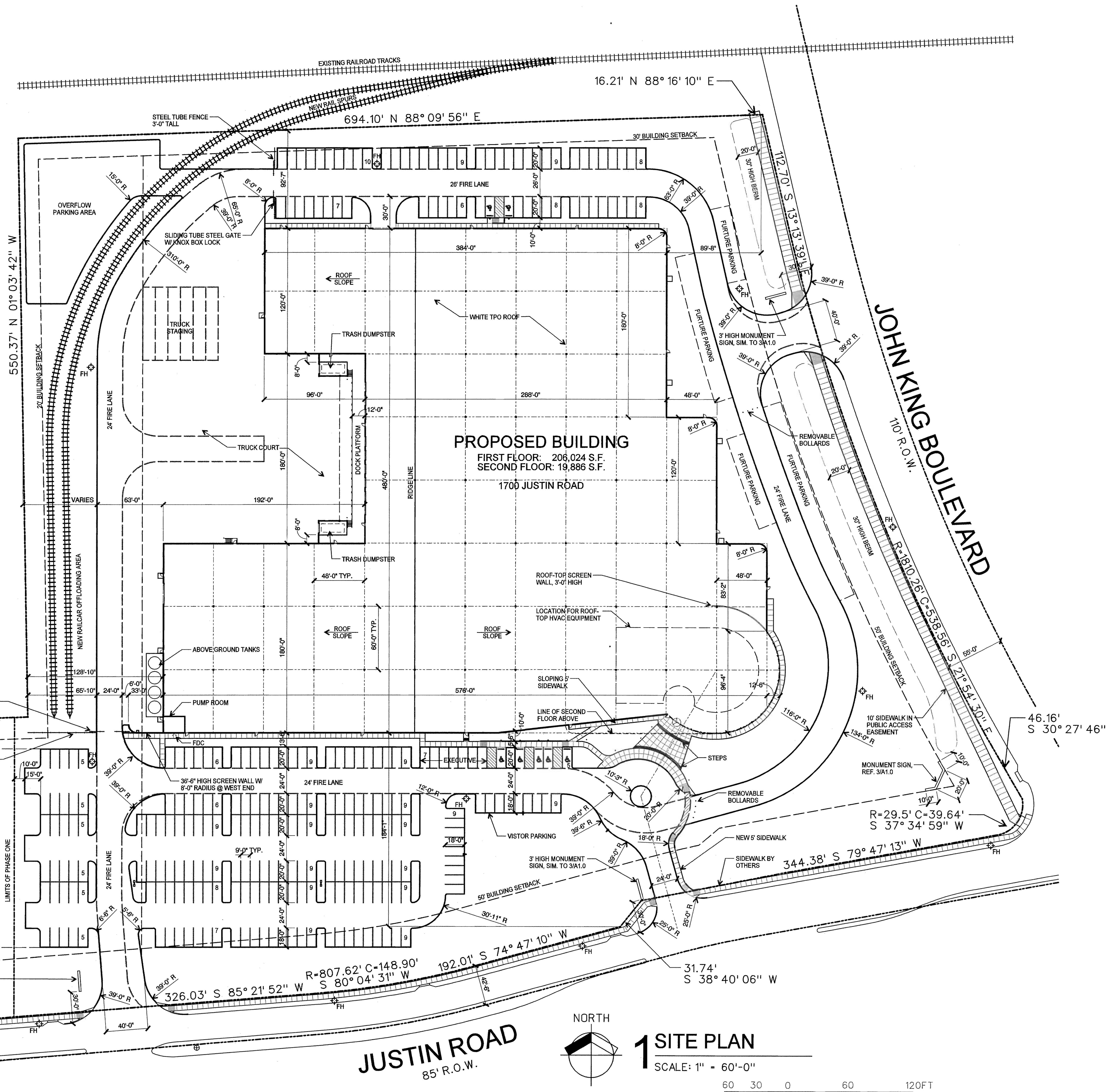
PARKING DATA

REQUIRED OFFICE AREA (1/300SF)	128 SPACES
REQUIRED MANUFACTURING AREA (1/500SF)	188 SPACES
REQUIRED WAREHOUSE AREA (1/1000SF)	94 SPACES
TOTAL PARKING REQUIRED	410 SPACES
TOTAL PARKING PROVIDED	278 SPACES
PROPOSED EMPLOYEE COUNT	
FIRST SHIFT	150 MAX.
SECOND SHIFT	100 MAX.
THIRD SHIFT	50 MAX.
ACCESSIBLE PARKING REQUIRED	7 SPACES
ACCESSIBLE PARKING PROVIDED	7 SPACES
LOADING REQUIRED	4 SPACES
LOADING PROVIDED	6 SPACES

NOTE:
NO STRUCTURES ADJOINING THE PROPERTY WITHIN 100'-0"

LOADING ZONES LOCATED AT OVERHEAD DOORS IN WEST TRUCK COURT





1 SITE PLAN
SCALE: 1" = 60'-0"

CASE NUMBER: SP2014-011

drawn: RLP
checked MARK W. PROSS
date 06/30/2014

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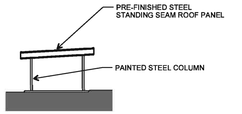
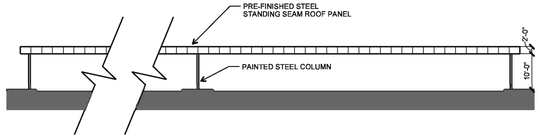
PROJECT:
1700 JUSTIN ROAD
ROCKWALL, TEXAS

CHANNELL COMMERCIAL CORPORATION

job no 1423
sheet A1.0

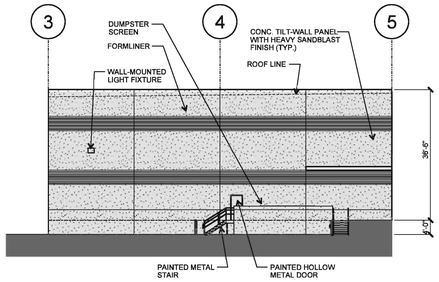
8:51:59 AM 7/1/2014 s:\drow\1423 Channell - Rockwall\SiteSubmittal\1423exhibit1.sht





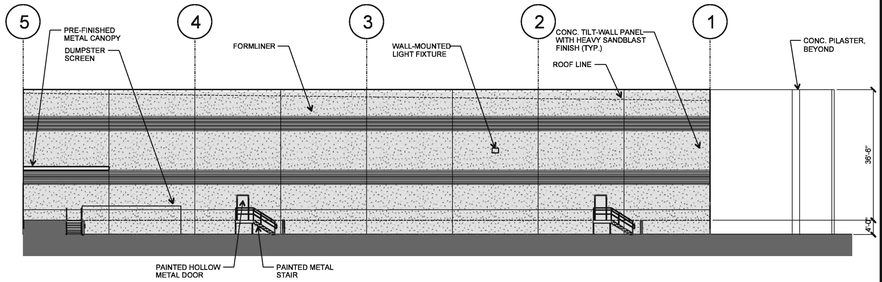
8 PARKING CANOPY SECTION

SCALE: 1"=20'-0"



7 PARKING CANOPY SOUTH ELEVATION

SCALE: 1"=20'-0"



6 TRUCK COURT SOUTH ELEVATION

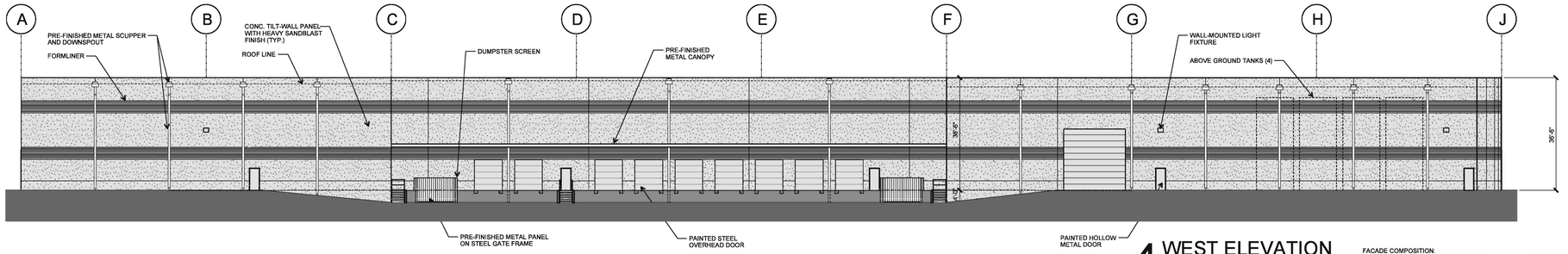
SCALE: 1"=20'-0"

FACADE COMPOSITION:	
CONCRETE TILT-WALL (SANDBLASTED)	3,072 S.F. (80%)
CONCRETE TILT-WALL (FORMLINER)	768S.F. (20%)
TOTAL:	3,840 S.F.

5 TRUCK COURT NORTH ELEVATION

SCALE: 1"=20'-0"

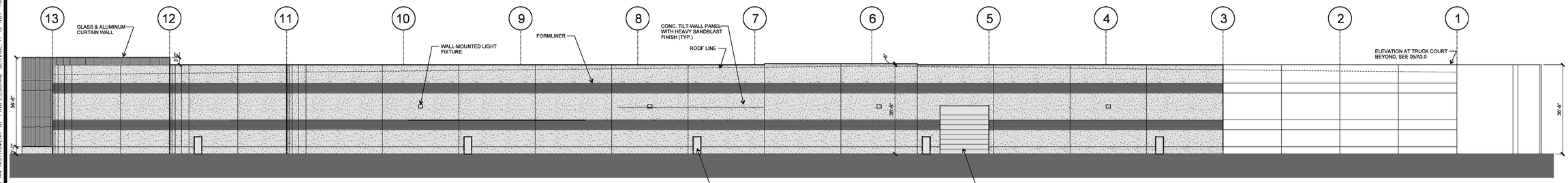
FACADE COMPOSITION:	
CONCRETE TILT-WALL (SANDBLASTED)	6,448 S.F. (83%)
CONCRETE TILT-WALL (FORMLINER)	1,280 S.F. (17%)
TOTAL:	7,728 S.F.



4 WEST ELEVATION

SCALE: 1"=20'-0"

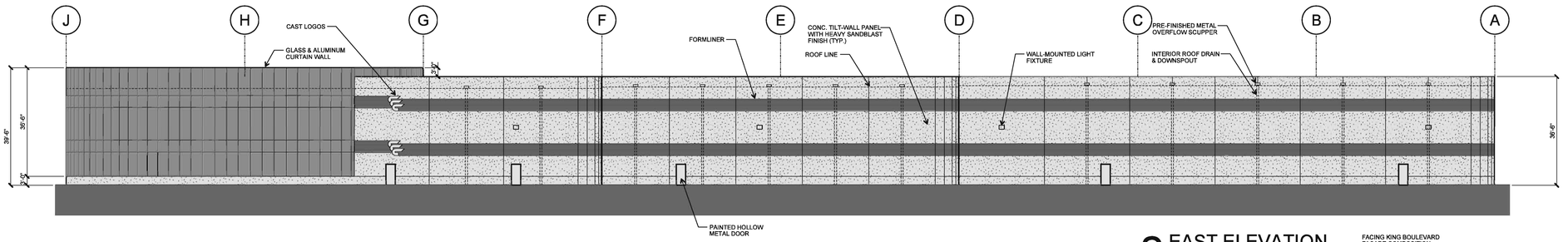
FACADE COMPOSITION:	
CONCRETE TILT-WALL (SANDBLASTED)	14,705 S.F. (80%)
CONCRETE TILT-WALL (FORMLINER)	3,751 S.F. (20%)
TOTAL:	18,456 S.F.



3 NORTH ELEVATION

SCALE: 1"=20'-0"

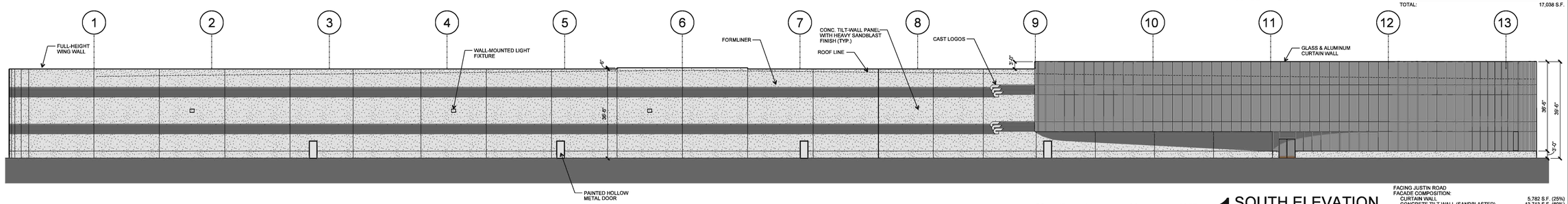
FACADE COMPOSITION:	
CURTAIN WALL	(0%, SEE EAST ELEVATION)
CONCRETE TILT-WALL (SANDBLASTED)	13,596 S.F. (79%)
CONCRETE TILT-WALL (FORMLINER)	3,707 S.F. (21%)
TOTAL:	17,303 S.F.



2 EAST ELEVATION

SCALE: 1"=20'-0"

FACING KING BOULEVARD	
FACADE COMPOSITION:	
CURTAIN WALL	3,026 S.F. (22%)
CONCRETE TILT-WALL (SANDBLASTED)	10,988 S.F. (81%)
CONCRETE TILT-WALL (FORMLINER)	3,024 S.F. (17%)
TOTAL:	17,038 S.F.



20 10 0 20 40FT

1 SOUTH ELEVATION

SCALE: 1"=20'-0"

FACING JUSTIN ROAD	
FACADE COMPOSITION:	
CURTAIN WALL	5,782 S.F. (25%)
CONCRETE TILT-WALL (SANDBLASTED)	13,713 S.F. (60%)
CONCRETE TILT-WALL (FORMLINER)	3,347 S.F. (15%)
TOTAL:	22,842 S.F.

CASE NUMBER: _____

$TIME$
$DATE$
$FILE$

drawn: DTS
checked MARK W. PROSS
date 6/12/2014

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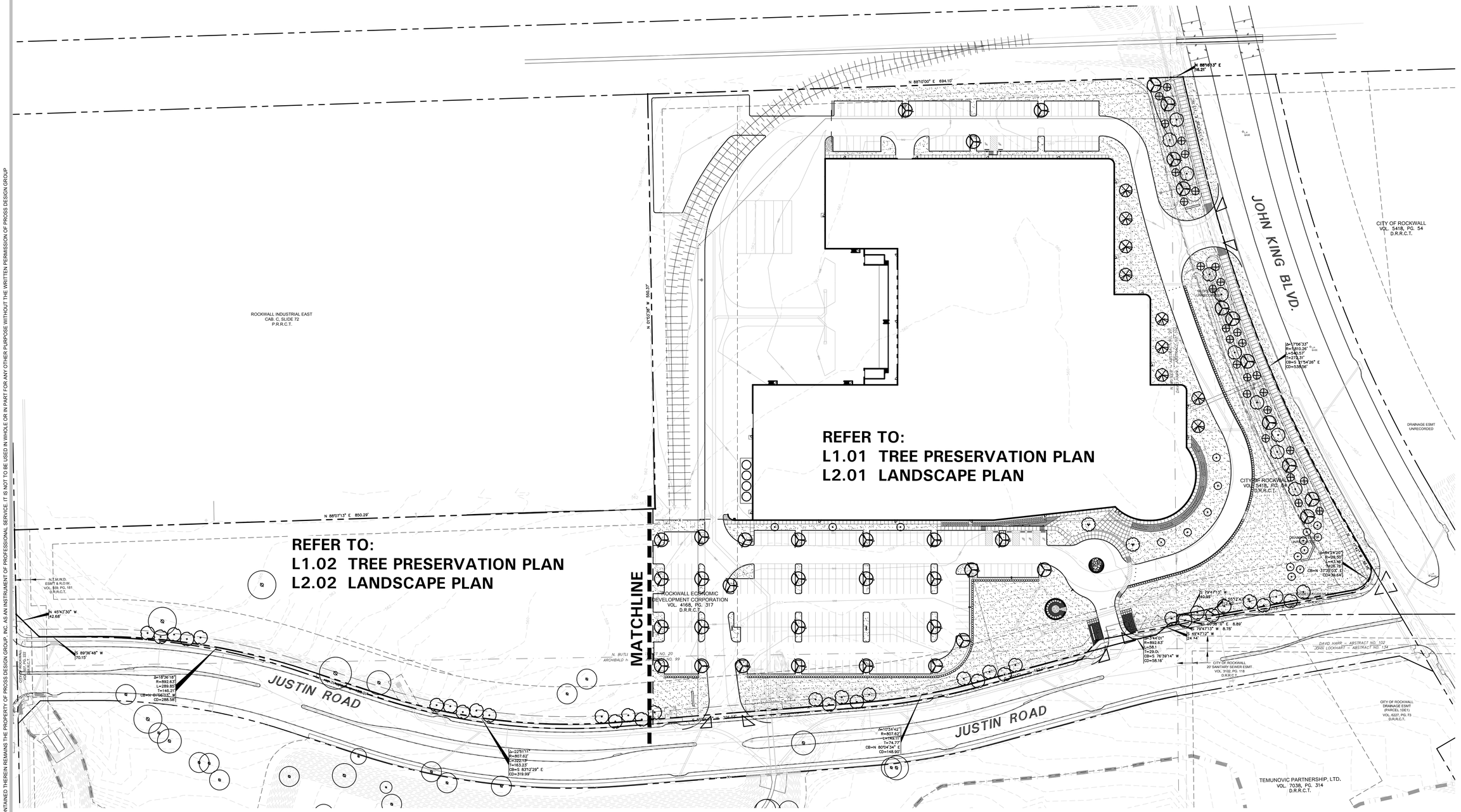
PROJECT:
JUSTIN ROAD AT
JOHN KING BOULEVARD
ROCKWALL, TEXAS

CHANNELL COMMERCIAL CORPORATION

REGISTERED ARCHITECT
STATE OF TEXAS
EXPIRES: 08/31/2014

job no 1423
sheet A3.0



KEY SHEET

SCALE: 1" = 60'-0"

0 30 60 120

BELLE FIRMA

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Suite 501
Dallas, Texas 75205
214.865.7192 office

drawn: APL
checked KH
date 07/01/2014

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REGISTERED LANDSCAPE ARCHITECT
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07.01.14

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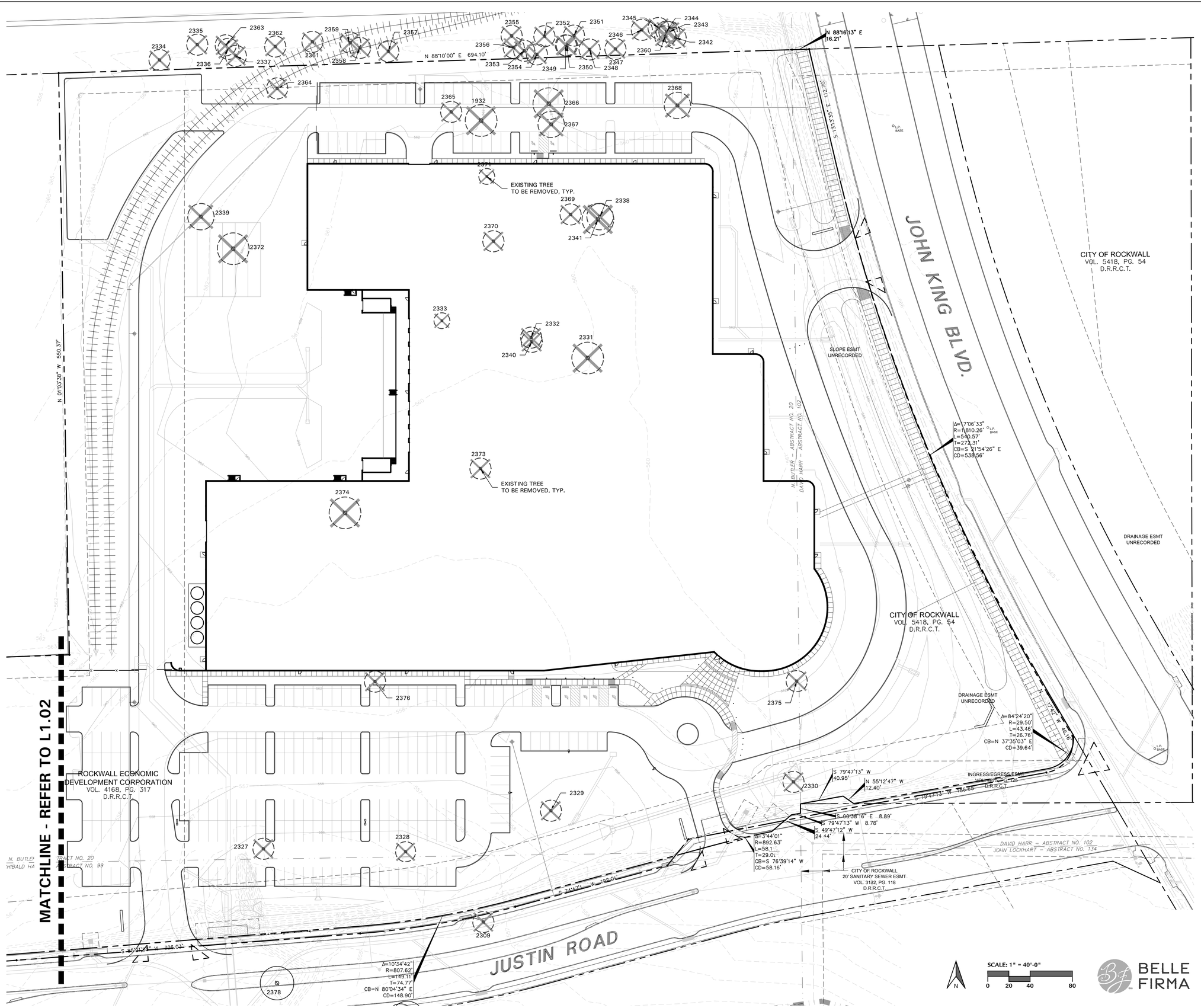
CHANNELL
ROCKWALL, TEXAS
BUILD-TO-SUIT

job no 1423
sheet L1.00



TREE PRESERVATION PLAN

SCALE: 1" = 40'-0"

0 20 40 80

BELLE FIRMA

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drawn: APL
checked KAH
date 07/01/2014

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REGISTERED LANDSCAPE ARCHITECT
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STATE OF TEXAS
07.01.14

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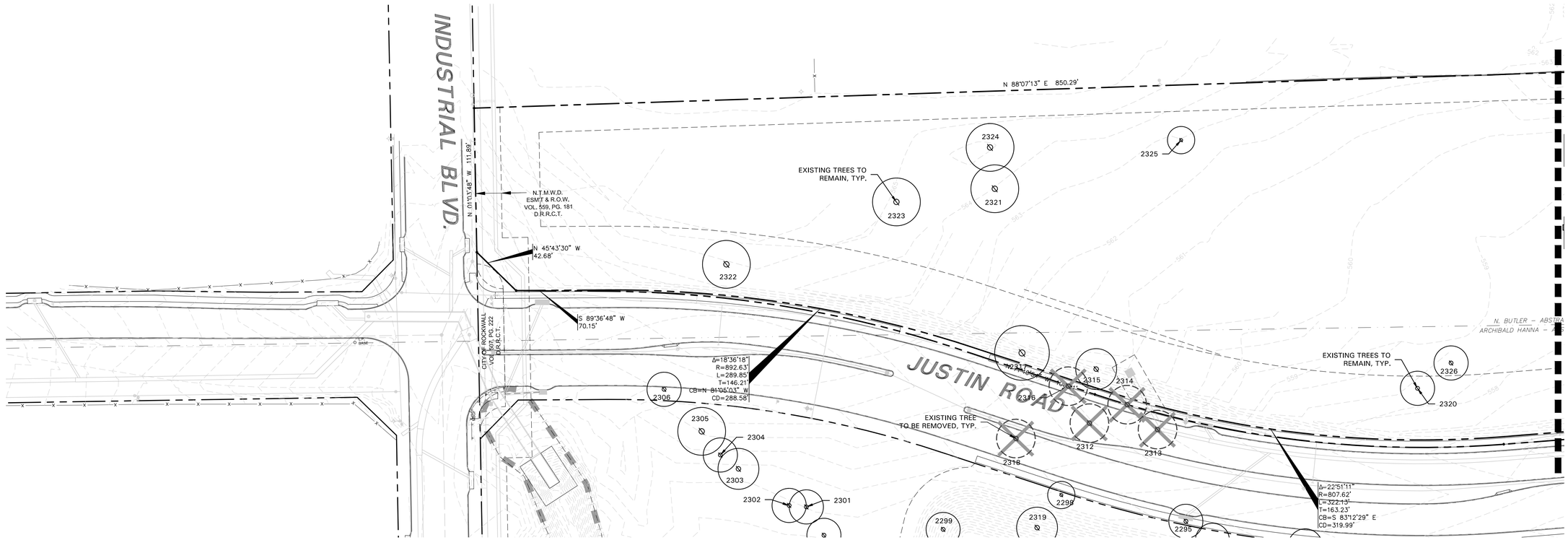
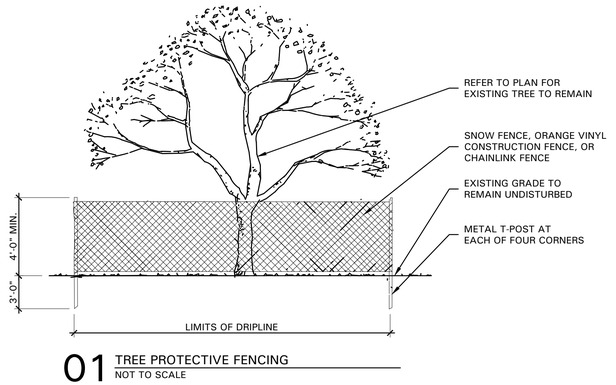
CHANNELL
ROCKWALL, TEXAS
BUILD-TO-SUIT

job no 1423
sheet L1.01



MATCHLINE - REFER TO L1.01



01 TREE PROTECTIVE FENCING
NOT TO SCALE

TREE SURVEY FIELD DATA

No.	Dia. (inches)	Species (common name)	Status	Remarks
1932	13	MULTI-TRUNK CEDAR	TO BE REMOVED	
2309	11	MULTI-TRUNK CEDAR	TO REMAIN	
2312	14	MULTI-TRUNK CEDAR	TO BE REMOVED	FUTURE RIGHT OF WAY
2313	19	MULTI-TRUNK CEDAR	TO BE REMOVED	FUTURE RIGHT OF WAY
2314	16	MULTI-TRUNK CEDAR	TO BE REMOVED	FUTURE RIGHT OF WAY
2315	18	MULTI-TRUNK CEDAR	TO REMAIN	
2316	11	CEDAR	TO BE REMOVED	FUTURE RIGHT OF WAY
2317	20	MULTI-TRUNK CEDAR	TO BE REMOVED	FUTURE RIGHT OF WAY
2320	16	MULTI-TRUNK CEDAR	TO REMAIN	
2321	18	MULTI-TRUNK CEDAR	TO REMAIN	
2322	21	MULTI-TRUNK CEDAR	TO REMAIN	
2323	23	MULTI-TRUNK CEDAR	TO REMAIN	
2324	20	MULTI-TRUNK CEDAR	TO REMAIN	
2325	12	MULTI-TRUNK CEDAR	TO REMAIN	
2326	12	MULTI-TRUNK CEDAR	TO REMAIN	
2327	15	MULTI-TRUNK CEDAR	TO BE REMOVED	
2328	13	MULTI-TRUNK CEDAR	TO BE REMOVED	
2329	11	CEDAR	TO BE REMOVED	
2330	20	MULTI-TRUNK CEDAR	TO BE REMOVED	
2331	20	MULTI-TRUNK CEDAR	TO BE REMOVED	
2332	11	MULTI-TRUNK CEDAR	TO BE REMOVED	
2333	12	MULTI-TRUNK CEDAR	TO BE REMOVED	
2338	14	MULTI-TRUNK CEDAR	TO BE REMOVED	
2339	14	CEDAR	TO BE REMOVED	
2340	14	MULTI-TRUNK CEDAR	TO BE REMOVED	
2341	18	MULTI-TRUNK CEDAR	TO BE REMOVED	
2364	13	CEDAR	TO BE REMOVED	
2365	11	CEDAR	TO BE REMOVED	
2366	11	CEDAR	TO BE REMOVED	
2367	15	MULTI-TRUNK CEDAR	TO BE REMOVED	
2368	13	CEDAR	TO BE REMOVED	
2369	13	MULTI-TRUNK CEDAR	TO BE REMOVED	
2370	11	CEDAR	TO BE REMOVED	
2371	11	MULTI-TRUNK CEDAR	TO BE REMOVED	
2372	12	CEDAR	TO BE REMOVED	
2373	11	HACKBERRY	TO BE REMOVED	
2374	15	MULTI-TRUNK CEDAR	TO BE REMOVED	
2375	12	CEDAR	TO BE REMOVED	
2376	11	CEDAR	TO BE REMOVED	

Total Caliper Inches on Site	**485**
Total Caliper Inches Removed	**334**
Total Mitigation Inches Required	**250.5**
Total Mitigation Inches Provided	**250.5**

TREE PRESERVATION NOTES

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM TREE STRUCTURE DAMAGE AND COMPACTION OF SOIL UNDER AND AROUND DRIP LINE (CANOPY) OF TREE.
2. IF ANY ROOT STRUCTURE IS DAMAGED DURING ADJACENT EXCAVATION / CONSTRUCTION, NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. IT IS RECOMMENDED THAT A LICENSED ARBORIST BE SECURED FOR THE TREATMENT OF ANY POSSIBLE TREE WOUNDS.
3. NO DISTURBANCE OF THE SOIL GREATER THAN 4" SHALL BE LOCATED CLOSER TO THE TREE TRUNK THAN 1/2 THE DISTANCE OF THE DRIP LINE TO THE TREE TRUNK. A MINIMUM OF 75% OF THE DRIP LINE AND ROOT ZONE SHALL BE PRESERVED AT NATURAL GRADE.
4. ANY FINE GRADING DONE WITHIN THE CRITICAL ROOT ZONES OF THE PROTECTED TREES MUST BE DONE WITH LIGHT MACHINERY SUCH AS A BOBCAT OR LIGHT TRACTOR. NO EARTH MOVING EQUIPMENT WITH TRACKS IS ALLOWED WITHIN THE CRITICAL ROOT ZONE OF THE TREES.
5. NO MATERIALS INTENDED FOR USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE DRIP LINE OF ANY TREE.
6. NO EQUIPMENT MAY BE CLEANED OR TOXIC SOLUTIONS, OR OTHER LIQUID CHEMICALS, SHALL BE DEPOSITED WITHIN THE LIMITS OF THE DRIP LINE OF A TREE, INCLUDING BUT NOT LIMITED TO: PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR, PRIMERS, ETC.
7. NO SIGNS, WIRES OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY TREE.
8. NO VEHICULAR / CONSTRUCTION EQUIPMENT TRAFFIC OR PARKING IS ALLOWED WITHIN THE LIMITS OF THE DRIP LINE OF TREES.
9. BORING OF UTILITIES MAY BE PERMITTED UNDER PROTECTED TREES IN CERTAIN CIRCUMSTANCES. THE MINIMUM LENGTH OF THE BORE SHALL BE THE WIDTH OF THE TREE'S CANOPY AND SHALL BE A MINIMUM DEPTH OF FORTY-EIGHT (48") INCHES.
10. IRRIGATION TRENCHING WHICH MUST BE DONE WITHIN THE CRITICAL ROOT ZONE OF A TREE SHALL BE DUG BY HAND AND ENTER THE AREA IN A RADIAL MANNER.
11. ALL TREES TO BE REMOVED FROM THE SITE SHALL BE FLAGGED BY THE CONTRACTOR WITH BRIGHT RED VINYL TAPE (3" WIDTH) WRAPPED AROUND THE MAIN TRUNK AT A HEIGHT OF FOUR (4') FEET ABOVE GRADE. FLAGGING SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO ANY TREE REMOVAL. CONTRACTOR SHALL CONTACT OWNER'S AUTHORIZED REPRESENTATIVE WITH 72 HOURS NOTICE TO SCHEDULE ON-SITE MEETING.
12. ALL TREES TO REMAIN, AS NOTED ON DRAWINGS, SHALL HAVE PROTECTIVE FENCING LOCATED AT THE TREE'S DRIP LINE. THE PROTECTIVE FENCING MAY BE COMPRISED OF SNOW FENCING, ORANGE VINYL CONSTRUCTION FENCING, CHAIN LINK FENCE OR OTHER SIMILAR FENCING WITH A FOUR (4') FOOT APPROXIMATE HEIGHT. THE PROTECTIVE FENCING SHALL BE LOCATED AS INDICATED ON THE TREE PROTECTION DETAIL.
13. WHEN A LOW HANGING LIMB IS BROKEN DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR PRUNE ANY PORTION OF THE DAMAGED TREE WITHOUT THE PRIOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

EXISTING TREE LEGEND

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE PROTECTION FENCING TO REMAIN DURING CONSTRUCTION REFER TO 01/L1.02

TREE PRESERVATION PLAN

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

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Suite 501
Dallas, Texas 75205
214.865.7192 office

drawn: APL
checked KAH
date 07/01/2014

BOB MOORE CONSTRUCTION, INC.
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REGISTERED LANDSCAPE ARCHITECT
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07.01.14

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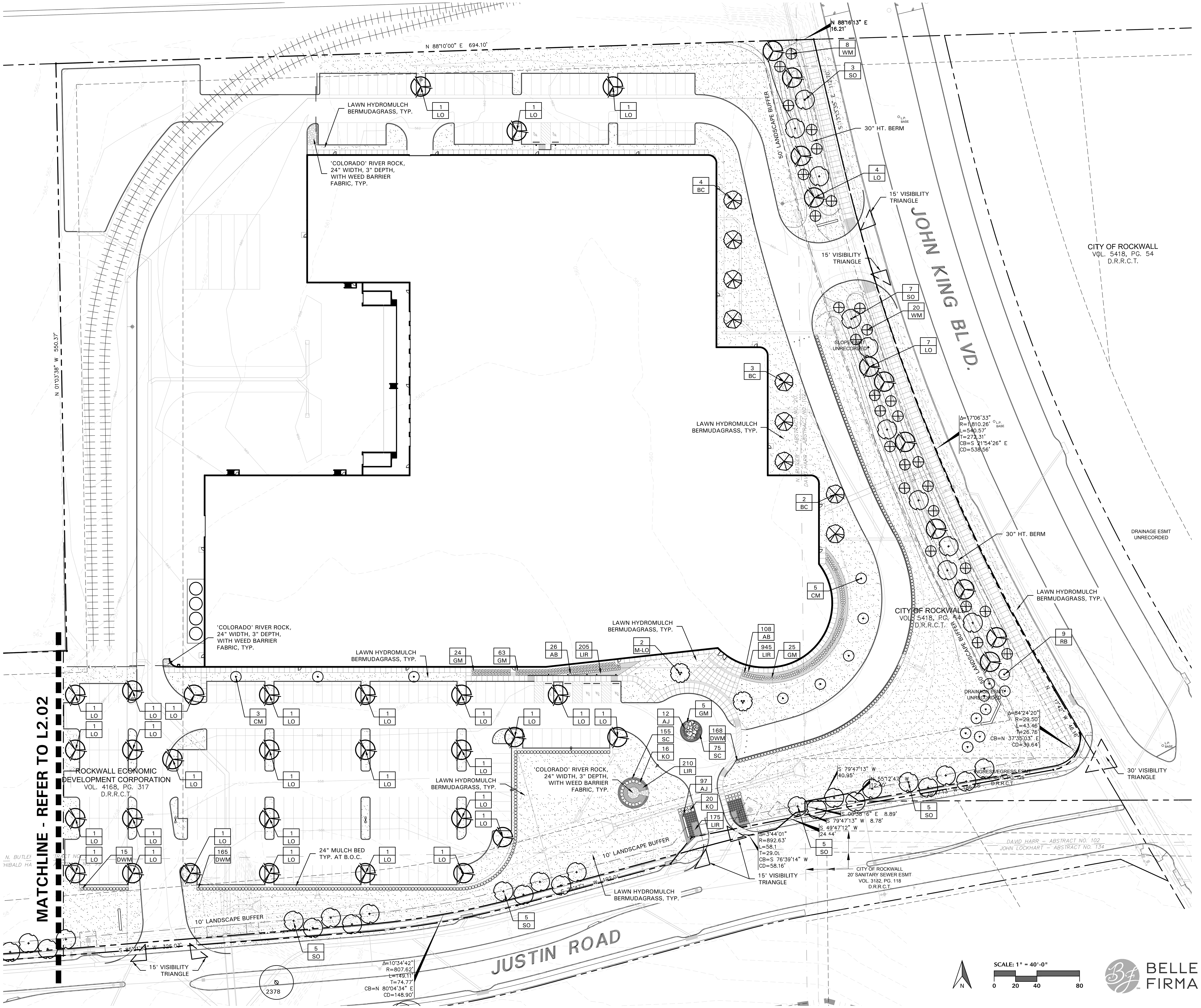
CHANNELL
ROCKWALL, TEXAS
BUILD-TO-SUIT

job no 1423
sheet L1.02



PLANT LEGEND

SYMBOL	COMMON NAME
AB	Dwarf Abelia 'Edward Goucher'
AJ	Asian Jasmine
BC	Bald Cypress
CM	Crepe Myrtle 'Natchez'
DWM	Dwarf Wax Myrtle
GM	Gulf Muhly
KO	Double Knock Out Rose
LIR	Liriope 'Big Blue'
LO	Live Oak
M-LO	Live Oak
RB	Oklahoma Redbud
SC	Seasonal Color
SO	Shumard Red Oak
WM	Wax Myrtle

REFER TO L2.02 FOR PLANT LIST

LANDSCAPE PLAN

BELLE FIRMA

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Dallas, Texas 75205
214.865.7192 office

drawn: APL
checked KAH
date 07/01/2014

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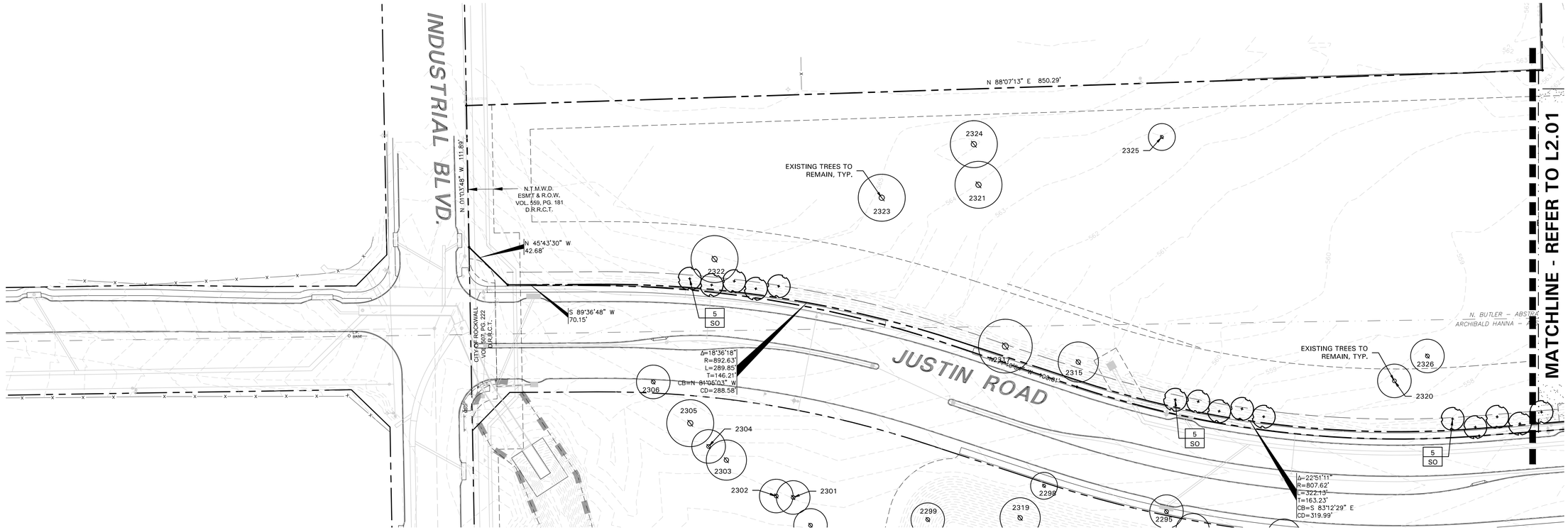
REGISTERED LANDSCAPE ARCHITECT · STATE OF TEXAS · 2246
07.01.14

pross design group, incorporated
5310 Harvest Hill Road, Suite 180, Dallas, Texas 75230. 972/759-1400

CHANNELL
BUILD-TO-SUIT
ROCKWALL, TEXAS

job no 1423
sheet
L2.01



PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
	TREES				
BC	*Taxodium distichum*	Bald Cypress	9	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
CM	*Lagerstroemia indica 'Natchez'*	Crepe Myrtle 'Natchez'	8	30 gal.	container grown, 3-5 trunk, no cross canes, 8' ht., 4' spread, matching
LO	*Quercus virginiana*	Live Oak	40	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
M-LO	*Quercus virginiana*	Live Oak	2	3" cal.	container grown, 3-5 trunk, 12' ht., 4' spread, 4' branching ht., matching
RB	*Cercis canadensis 'Oklahoma'*	Oklahoma Redbud	9	30 gal.	container grown, 8' ht., 4' spread min.
SO	*Quercus shumardii*	Shumard Red Oak	45	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
WM	*Myrica cerifera*	Wax Myrtle	28	6' ht.	container grown, full to base, 3' spread
	SHRUBS/GROUNDCOVER				
AB	*Abelia grandiflora 'Edward Goucher'*	Dwarf Abelia 'Edward Goucher'	134	3 gal.	container full, 18" spread, 24" o.c.
AJ	*Juniperus tobira 'Andorra'*	Andorra Juniper	109	5 gal.	container full, 20" spread, 36" o.c.
DWM	*Myrica pusilla*	Dwarf Wax Myrtle	348	5 gal.	container full, 20" spread, 24" o.c.
GM	*Muhlenbergia capillaris*	Gulf Muhly	117	5 gal.	container full, 36" o.c.
KO	*Rosa hybrida 'Radtko'*	Double Knock Out Rose	36	5 gal.	container full, 20" spread, 36" o.c.
LIR	*Liriope muscari 'Big Blue'*	Liriope 'Big Blue'	1535	4" pots	container full top of container, 12" o.c.
SC		Seasonal Color	230	4" pots	container full, 12" o.c., selection by Owner
	Cynodon dactylon	Common Bermudagrass			refer to notes

NOTE: ALL TREES SHALL HAVE STRAIGHT TRUNKS AND BE MATCHING WITHIN VARIETIES.
PLANT LIST IS AN AID TO BIDDERS ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES ON PLAN.
ALL HEIGHTS AND SPREADS ARE MINIMUMS. ALL PLANT MATERIAL SHALL MEET OR EXCEED REMARKS AS INDICATED.

LANDSCAPE NOTES

1. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS SUPPLIED BY OTHERS.
2. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES AND NOTIFY LANDSCAPE ARCHITECT OF ANY CONFLICTS. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL PROVIDE A MINIMUM 2% SLOPE AWAY FROM ALL STRUCTURES.
4. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED. LEAVE AREAS TO RECEIVE TOPSOIL 3" BELOW FINAL FINISHED GRADE IN PLANTING AREAS AND 1" BELOW FINAL FINISHED GRADE IN LAWN AREAS.
5. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY STEEL EDGING. NO STEEL EDGING SHALL BE INSTALLED ADJACENT TO BUILDINGS, WALKS, OR CURBS. CUT STEEL EDGING AT 45 DEGREE ANGLE WHERE IT INTERSECTS WALKS AND CURBS.
6. TOP OF MULCH SHALL BE 1/2" MINIMUM BELOW THE TOP OF WALKS AND CURBS.
7. ALL LAWN AREAS SHALL BE HYDROMULCH BERMUDAGRASS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
8. ALL REQUIRED LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN AND FREEZE SENSORS AND EVAPOTRANSPIRATION (ET) WEATHER-BASED CONTROLLERS AND SAID IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL AND INSTALLED BY A LICENSED IRRIGATOR.
9. CONTRACTOR SHALL PROVIDE BID PROPOSAL LISTING UNIT PRICES FOR ALL MATERIAL PROVIDED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPE AND IRRIGATION PERMITS.

MAINTENANCE NOTES

1. THE OWNER, TENANT AND THEIR AGENT, IF ANY, SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE.
2. ALL LANDSCAPE SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THIS SHALL INCLUDE MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING AND OTHER SUCH ACTIVITIES COMMON TO LANDSCAPE MAINTENANCE.
3. ALL LANDSCAPE AREAS SHALL BE KEPT FREE OF TRASH, LITTER, WEEDS AND OTHER SUCH MATERIAL OR PLANTS NOT PART OF THIS PLAN.
4. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON OF THE YEAR.
5. ALL PLANT MATERIAL WHICH DIES SHALL BE REPLACED WITH PLANT MATERIAL OF EQUAL OR BETTER VALUE.
6. CONTRACTOR SHALL PROVIDE SEPARATE BID PROPOSAL FOR ONE YEAR'S MAINTENANCE TO BEGIN AFTER FINAL ACCEPTANCE.

GENERAL LAWN NOTES

1. CONTRACTOR SHALL COORDINATE OPERATIONS AND AVAILABILITY OF EXISTING TOPSOIL WITH ON-SITE CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL LEAVE LAWN AREAS 1" BELOW FINAL FINISHED GRADE PRIOR TO TOPSOIL INSTALLATION.
3. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED ON CIVIL PLANS. ADJUST CONTOURS TO ACHIEVE POSITIVE DRAINAGE AWAY FROM BUILDINGS. PROVIDE UNIFORM ROUNDING AT TOP AND BOTTOM OF SLOPES AND OTHER BREAKS IN GRADE. CORRECT IRREGULARITIES AND AREAS WHERE WATER MAY STAND.
4. ALL LAWN AREAS SHALL BE FINE GRADED, IRRIGATION TRENCHES COMPLETELY SETTLED AND FINISH GRADE APPROVED BY THE OWNER'S CONSTRUCTION MANAGER OR LANDSCAPE ARCHITECT PRIOR TO LAWN INSTALLATION.
5. CONTRACTOR SHALL REMOVE ALL ROCKS 3/4" DIAMETER AND LARGER, DIRT CLODS, STICKS, CONCRETE SPOILS, ETC. PRIOR TO PLACING TOPSOIL AND LAWN INSTALLATION.
6. CONTRACTOR SHALL MAINTAIN ALL LAWN AREAS UNTIL FINAL ACCEPTANCE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: MOWING, WATERING, WEEDING, CULTIVATING, CLEANING AND REPLACING DEAD OR BARE AREAS TO KEEP PLANTS IN A VIGOROUS, HEALTHY CONDITION.
7. CONTRACTOR SHALL GUARANTEE ESTABLISHMENT OF ACCEPTABLE TURF AREA AND SHALL PROVIDE REPLACEMENT FROM LOCAL SUPPLY IF NECESSARY.

HYDROMULCH NOTES

1. CONTRACTOR SHALL SCARIFY, RIP AND LOOSEN ALL AREAS TO BE HYDROMULCHED TO A MINIMUM DEPTH OF 4" PRIOR TO TOPSOIL AND HYDROMULCH INSTALLATION.
2. BERMUDAGRASS SEED SHALL BE EXTRA HULLED AND TREATED LAWN TYPE, SHALL BE DELIVERED TO THE SITE IN ITS ORIGINAL UNOPENED CONTAINER AND SHALL MEET STATE LAW REQUIREMENTS.
3. FIBER SHALL BE ONE HUNDRED PERCENT (100%) WOOD CELLULOSE FIBER, DELIVERED TO THE SITE IN ITS ORIGINAL UNOPENED CONTAINER AS MANUFACTURED BY 'CONWEB' OR EQUAL.
4. FIBER TACK SHALL BE DELIVERED TO THE SITE IN ITS ORIGINAL UNOPENED CONTAINER AND SHALL BE 'TERRO-TACK ONE', AS MANUFACTURED BY GROWERS, INC. OR EQUAL.
5. HYDROMULCH WITH BERMUDAGRASS SEED AT A RATE OF TWO (2) POUNDS PER ONE THOUSAND (1000) SQUARE FEET.
6. USE A 4'X8' BATTER BOARD AGAINST ALL BED AREAS.
7. IF INSTALLATION OCCURS BETWEEN SEPTEMBER 1 AND MAY 1, ALL HYDROMULCH AREAS TO BE WINTER RYEGRASS, AT A RATE OF FOUR (4) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. CONTRACTOR SHALL BE REQUIRED TO RE-HYDROMULCH WITH BERMUDAGRASS THE FOLLOWING GROWING SEASON AS PART OF THIS CONTRACT.
8. ALL LAWN AREAS TO BE HYDROMULCHED SHALL HAVE ONE HUNDRED PERCENT (100%) COVERAGE PRIOR TO FINAL ACCEPTANCE.

LANDSCAPE TABULATIONS

THE CITY OF ROCKWALL, TEXAS

SITE SUMMARY
Site Area = 18.95 AC; 825,439 s.f.
Impervious Area = 9.64 AC; 419,872 s.f.
Landscape Area = 9.31 AC; 405,567 s.f.
Building Area = 206,024 s.f.

STREET LANDSCAPING
1. 10' wide landscape buffer with one tree per 50 l.f. along Justin Rd.
2. 50' wide landscape buffer with a built-up berm (30"-40" ht.), shrubs or combination along John Kind Boulevard.
3. 3 canopy trees and 4 accent trees per every 100 l.f. along John King Boulevard.

JUSTIN RD. - 1,833 l.f.

Required	Provided
10' buffer	10' buffer
(37) canopy trees, 4" cal.	(35) trees, 4" cal. (2) existing trees

JOHN KING PARKWAY - 700 l.f.

Required	Provided
50' buffer	50' buffer
(21) canopy trees, 4" cal.	(21) canopy trees, 4" cal.
(28) accent trees, 4' ht.	(28) accent trees, 4' ht.

PARKING LOT LANDSCAPING
1. 5% of the interior parking lot shall be landscape.
2. One (1) large tree per 10 spaces
3. No required parking space more than 80' from a tree
4. Screening of parking lot along Justin Rd.

Total interior parking lot area = 107,727 s.f.
Total parking spaces = 277 spaces

Required	Provided
5,386 s.f. (5%)	10,224 s.f. (9%)
(28) trees, 3" cal.	(28) trees, 3" cal.
all spaces within 80' of tree	all spaces within 80' of tree

SITE LANDSCAPING
1. 10% of the total site shall be landscaped for LIGHT INDUSTRIAL.
2. 100% of the total requirements shall be located in the front of and along side buildings for LIGHT INDUSTRIAL.

Total site = 18.95 AC; 825,439 s.f.

Required	Provided
82,543 s.f. (10%)	129,079 s.f. (15%)
82,543 s.f. (100%)	125,052 s.f. (151%)

NO TREES WITHIN 5'-0" OF ANY UTILITIES

IRRIGATION WILL MEET REQUIREMENTS OF UDC

LANDSCAPE PLAN

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA
4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

drawn: APL
checked KH
date 07/01/2014

BOB MOORE CONSTRUCTION, INC.
1110 N. WATSON ROAD ARLINGTON, TEXAS 76011
817.640.8400
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REGISTERED LANDSCAPE ARCHITECT
JOHN ANN HANNA
2240
STATE OF TEXAS
07.01.14

pross design group, incorporated
5310 Harvest Hill Road, Suite 160, Dallas, Texas 75230, 972/759-1400

CHANNELL
ROCKWALL, TEXAS
BUILD-TO-SUIT

job no 1423
sheet L2.02

SECTION 32 9300 - LANDSCAPE

PART 1 - GENERAL

1.1 REFERENCED DOCUMENTS

A. Refer to Landscape Plans, notes, details, bidding requirements, special provisions, and schedules for additional requirements.

1.2 DESCRIPTION OF WORK

A. Work included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:

1. Planting (trees, shrubs and grasses)
2. Bed preparation and fertilization
3. Notification of sources
4. Water and maintenance until final acceptance
5. Guarantee

1.3 REFERENCE STANDARDS

A. American Standard for Nursery Stock published by American Association of Nurserymen: 27 October 1980, Edition; by American National Standards Institute, Inc. (Z60.1) – plant material

B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.

C. Texas Association of Nurserymen, Grades and Standards

D. Hortis Third, 1976 - Cornell University

1.4 NOTIFICATION OF SOURCES AND SUBMITTALS

A. Samples: Provide representative quantities of sandy loam soil, mulch, bed mix material, gravel and crushed stone. Samples shall be approved by Owner's Authorized Representative before use on the project.

1.5 JOB CONDITIONS

A. General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor shall leave planting bed areas three (3") inches below final finish grade of sidewalks, drives and curbs as shown on the drawings. All lawn areas to receive solid sod shall be left one (1") inch below the final finish grade of sidewalks, drives and curbs. All construction debris shall be removed prior to Landscape Contractor beginning any work.

B. Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

1.6 MAINTENANCE AND GUARANTEE

A. Maintenance:

1. The Landscape Contractor shall be held responsible for the maintenance of all work from the time of planting until final acceptance by the Owner. No trees, shrubs, groundcover or grass will be accepted unless they show healthy growth and satisfactory foliage conditions.
2. Maintenance shall include watering of trees and plants, cultivation, weeding spraying, edging, pruning of trees, mowing of grass, cleaning up and all other work necessary of maintenance.
3. A written notice requesting final inspection and acceptance should be submitted to the Owner at least seven (7) days prior to completion. An on-site inspection by the Owner's Authorized Representative will be completed prior to written acceptance.

B. Guarantee:

1. Trees, shrubs and groundcover shall be guaranteed for a twelve (12) month period after final acceptance. The Contractor shall replace all dead materials as soon as weather permits and upon notification of the Owner. Plants, including trees, which have partially died so that shape, size, or symmetry have been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner shall be final.
   a. Plants used for replacement shall be of the same size and kind as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall carry a twelve (12) month guarantee. Any damage, including ruts in lawn or bed areas, incurred as a result of making replacements shall be immediately repaired.
   b. At the direction of the Owner, plants may be replaced at the start of the next year's planting season. In such cases, dead plants shall be removed from the premises immediately.
   c. When plant replacements are made, plants, soil mix, fertilizer and mulch are to be utilized as originally specified and re-inspected for full compliance with the contract requirements. All replacements are to be included under "Work" of this section.
2. The Owner agrees that for the guarantee to be effective, he will water plants at least twice a week during dry periods and cultivate beds once a month after final acceptance.
3. The above guarantee shall not apply where plants die after acceptance because of injury from storms, hail, freeze, insects, diseases, injury by humans, machines or theft.
4. Acceptance for all landscape work shall be given after final inspection by the Owner provided the job is in a complete, undamaged condition and there is a stand of grass in all lawn areas. At that time, the Owner will assume maintenance on the accepted work.

C. Repairs: Any necessary repairs under the Guarantee must be made within ten (10) days after receiving notice, weather permitting. In the event the Landscape Contractor does not make repairs accordingly, the Owner, without further notice to Contractor, may provide materials and men to make such repairs at the expense to the Landscape Contractor.

1.7 QUALITY ASSURANCE

A. General: Comply with applicable federal, state, county and local regulations governing landscape materials and work.

B. Personnel: Employ only experienced personnel who are familiar with the required work. Provide full time supervision by a qualified foreman acceptable to Landscape Architect.

C. Selection of Plant Material:
1. Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will ensure the purchased materials will meet and / or exceed project specifications.
2. Substitutions: Do not make plant material substitutions. If the specified landscape material is not obtainable, submit proof of non-availability to Landscape Architect, together with proposal for use of equivalent material. At the time bids are submitted, the Contractor is assumed to have located the materials necessary to complete the job as specified.
3. Landscape Architect will provide a key identifying each tree location on site. Written verification will be required to document material selection, source and delivery schedules to site.
4. Measurements: Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements six inches above ground for trees up to and including 4" caliper size, and twelve inches above ground for larger sizes. Measure main body of all plant material of height and spread dimensions, do not measure from branch or root tip-to-tip.
5. Owner's Authorized Representative shall inspect all plant material with requirements for genus, species, cultivar / variety size and quality.
6. Owner's Authorized Representative retains the right to further inspect all plant material upon arrival to the site and during installation for size and condition of root balls and root systems, limbs, branching habit, insects, injuries and latent defects.
7. Owner's Authorized Representative may reject unsatisfactory or defective material at any time during the process work. Remove rejected materials immediately from the site and replace with acceptable material at no additional cost to the Owner. Plants damaged in transit or at job site shall be rejected.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Preparation:
1. Balled and Burlapped (B&B) Plants: Dig and prepare shipment in a manner that will not damage roots, branches, shape and future development.
2. Container Grown Plants: Deliver plants in rigid container to hold ball shape and protect root mass.

B. Delivery:
1. Deliver packaged materials in sealed containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored on site.
2. Deliver only plant materials that can be planted in one day unless adequate storage and watering facilities are available on job site.
3. Protect root balls by heeling in with sawdust or other approved moisture retaining material if not planted within 24 hours of delivery.
4. Protect plants during delivery to prevent damage to root balls or desiccation of leaves. Keep plants moist at all times. Cover all materials during transport.
5. Notify Owner's Authorized Representative of delivery schedule 72 hours in advance job site.
6. Remove rejected plant material immediately from job site.
7. To avoid damage or stress, do not lift, move, adjust to plumb, or otherwise manipulate plants by trunk or stems.

PART 2 - PRODUCTS

2.1 PLANTS

A. General: Well-formed No. 1 grade or better nursery grown stock. Listed plant heights are from tops of root balls to nominal tops of plants. Plant spread refers to nominal outer width of the plant, not to the outer leaf tips. Plants will be individually approved by the Owner's Authorized Representative and his decision as to their acceptability shall be final.

B. Quantities: The drawings and specifications are complimentary. Anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is an aid to bidders only. Confirm all quantities on plan.

C. Quality and size: Plant materials shall conform to the size given on the plan, and shall be healthy, symmetrical, well-shaped, full branched and well rooted. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken ranches, objectionable disfigurements, insect eggs and larvae, and are to be of specimen quality.

D. Approval: All plants which are found unsuitable in growth, or are in any unhealthy, badly shaped or undersized condition will be rejected by the Owner's Authorized Representative either before or after planting and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plant as specified at no additional cost to the Owner.

E. Trees shall be healthy, full-branched, well-shaped, and shall meet the minimum trunk and diameter requirements of the plant schedule. Balls shall be firm, neat, slightly tapered and well wrapped in burlap. Any tree loose in the ball or with a broken root ball at time of planting will be rejected. Balls shall be ten (10") inched in diameter for each one (1") inch of trunk diameter, measured six (6") inched above ball. (Nomenclature confirms to the customary nursery usage. For clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.)

F. Pruning: All pruning of trees and shrubs, as directed by the Landscape Architect prior to final acceptance, shall be executed by the Landscape Contractor at no additional cost to the Owner.

2.2 SOIL PREPARATION MATERIALS

A. Sandy Loam:
1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
2. Physical properties as follows:
   a. Clay – between 7-27 percent
   b. Silt – between 15-25 percent
   c. Sand – less than 52 percent
3. Organic matter shall be 3%-10% of total dry weight.
4. If requested, Landscape Contractor shall provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.

B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.

C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.

D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.

E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.

F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.

G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus iconutrients.

H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

2.3 MISCELLANEOUS MATERIALS

A. Steel Edging: 3/16" x 4" x 16' - dark green, DURAEDGE® steel landscape edging manufactured by The J.D. Russell Company under its trade name DURAEDGE Heavy Duty Steel .

B. Staking Material for Shade Trees: refer to details.

C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.

D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.

E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

F. Decomposed Granite: Base material shall consist of a natural material mix of granite aggregate not to exceed 1/8" diameter in size and shall be composed of various stages of decomposed earth base.

PART 3 - EXECUTION

3.1 BED PREPARATION & FERTILIZATION

A. Landscape Contractor to inspect all existing conditions and report any deficiencies to the Owner.

B. All planting areas shall be conditioned as follows:
1. Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six (6") inches prior to placing compost and fertilizer. Apply fertilizer as per Manufacturer's recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the topsoil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty (20) pounds per one thousand (1,000) square feet.
2. All planting areas shall receive a two (2") inch layer of specified mulch.
3. Backfill for tree pits shall be as follows: Use existing top soil on site (use imported topsoil as needed) free from large clumps, rocks, debris, caliche, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.

C. Grass Areas:
1. Blocks of sod should be laid joint to joint (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.

3.2 INSTALLATION

A. Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.

B. Plant materials shall be delivered to the site only after the beds are prepared and areas are ready for planting. All shipments of nursery materials shall be thoroughly protected from the drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected against the possibility of drying by wind and Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.

C. Position the trees and shrubs in their intended location as per plan.

D. Notify the Owner's Authorized Representative for inspection and approval of all positioning of plant materials.

E. Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that,when planted and settled, the crown of the plant shall bear the same relationship to the finish grade as it did to soil surface in original place of growth.

F. Shrub and tree pits shall be no less than twenty-four (24") inches wider than the lateral dimension of the earth ball and six (6") inches deeper than it's vertical dimension. Remove and haul from site all rocks and stones over three-quarter (¾") inch in diameter. Plants should be thoroughly moist before removing containers.

G. Dig a wide, rough sided hole exactly the same depth as the height of the ball, especially at the surface of the ground. The sides of the hole should be rough and jagged, never slick or glazed.

H. Percolation Test: Fill the hole with water. If the water level does not percolate within 24 hours, the tree needs to move to another location or have drainage added. Install a PVC stand pipe per tree planting detail as approved by the Landscape Architect if the percolation test fails.

I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top ⅓ of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of 'root scoring'.

J. Do not wrap trees.

K. Do not over prune.

L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.

M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.

N. Obstruction below ground: In the event that rock, or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this section, alternate locations may be selected by the Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.

O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.

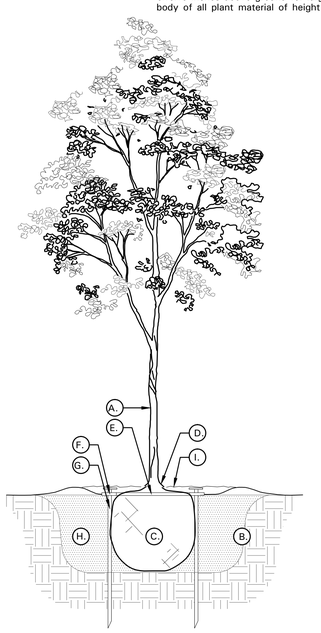
P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
2. Pruning shall be done with clean, sharp tools.
3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.

Q. Steel Curbing Installation:
1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
2. All steel curbing shall be free of kinks and abrupt bends.
3. Top of curbing shall be ½" maximum height above final finished grade.
4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
5. Do not install steel edging along sidewalks or curbs.
6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

3.3 CLEANUP AND ACCEPTANCE

A. Cleanup: During the work, the premises shall be kept neat and orderly at all times. Storage areas for all materials shall be so organized so that they, too, are neat and orderly. All trash and debris shall be removed from the site as work progresses. Keep paved areas clean by sweeping or hosing them at end of each work day.

END OF SECTION



01 TREE PLANTING DETAIL
NOT TO SCALE

TREE PLANTING DETAIL LEGEND AND NOTES

A. TREE: TREES SHALL CONFORM WITH LATEST AMERICAN STANDARD FOR NURSERY STOCK. www.anla.org

B. TREE PIT: WIDTH TO BE AT LEAST TWO (2) TIMES THE DIAMETER OF THE ROOT BALL CENTER TREE IN HOLE & REST ROOT BALL ON UNDISTURBED NATIVE SOIL.

C. ROOT BALL: REMOVE TOP ⅓ BURLAP AND ANY OTHER FOREIGN OBJECT; CONTAINER GROWN STOCK TO BE INSPECTED FOR GIRDLING ROOTS.

D. ROOT FLARE: ENSURE THAT ROOT FLARE IS EXPOSED, FREE FROM MULCH, AND AT LEAST TWO INCHES ABOVE GRADE. TREES SHALL BE REJECTED WHEN GIRDLING ROOTS ARE PRESENT & ROOT FLARE IS NOT APPARENT.

E. ROOTBALL ANCHOR RING: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. PLACE ROOTBALL ANCHOR RING ON BASE OF ROOTBALL, TRUNK SHOULD BE IN THE CENTER OF THE RING.

F. 'U' BRACKET.

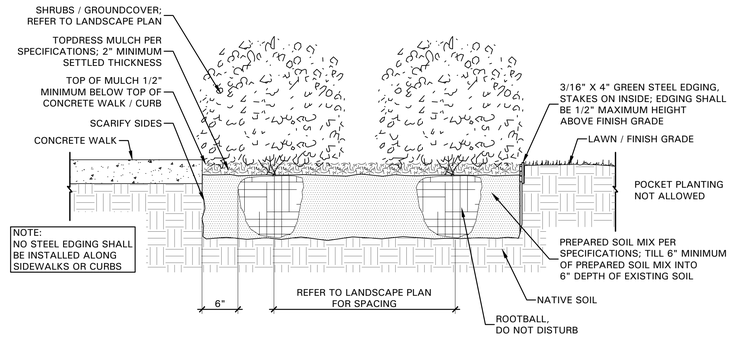
G. NAIL STAKE: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. INSTALL NAIL STAKES WITH HAMMER OR MALLET FIRMLY INTO UNDISTURBED GROUND. DRIVE NAIL STAKES FLUSH WITH "U" BRACKET ADJACENT TO ROOTBALL (DO NOT DISTURB ROOTBALL).

H. BACKFILL: USE EXISTING NATIVE SOIL (no amendments) WATER THOROUGHLY TO ELIMINATE AIR POCKETS.

I. MULCH: DOUBLE SHREDDED HARDWOOD MULCH 2 INCH SETTLED THICKNESS, WITH 2" HT. WATERING RING; ENSURE THAT ROOT FLARE IS EXPOSED. BELOW GROUND STAKE SHOULD NOT BE VISIBLE.

J. TREE STAKES:
TREE STAKE SOLUTIONS 'SAFETY STAKE' BELOW GROUND MODEL AVAILABLE FROM:
Tree Stake Solutions
ATTN: Jeff Tuley
(903) 676-6143
jeff@treestakesolutions.com
www.treestakesolutions.com

K. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A COPY OF THE MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF TREE STAKES. CONTRACTOR SHALL ADHERE TO MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND OTHER REQUIREMENTS FOR TREE STAKE INSTALLATION.



02 SHRUB / GROUNDCOVER DETAIL
NOT TO SCALE

LANDSCAPE SPECIFICATIONS AND DETAILS

BELLE FIRMA
4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

drawn: APL
checked KH
date 07/01/2014

BOB MOORE CONSTRUCTION, INC.
1110 N. WATSON ROAD, ARLINGTON, TEXAS 76011
817.640.4000
WWW.GENERALCONTRACTOR.COM

REGISTERED LANDSCAPE ARCHITECT
ANN HARRIS
2245
STATE OF TEXAS
07.01.14

pross design group, incorporated
5310 Harvest Hill Road, Suite 160, Dallas, Texas 75230 972/759-1400

CHANNELL
ROCKWALL, TEXAS
BUILD-TO-SUIT

job no 1423
sheet L2.03

6/19/2014 1:14:54 PM

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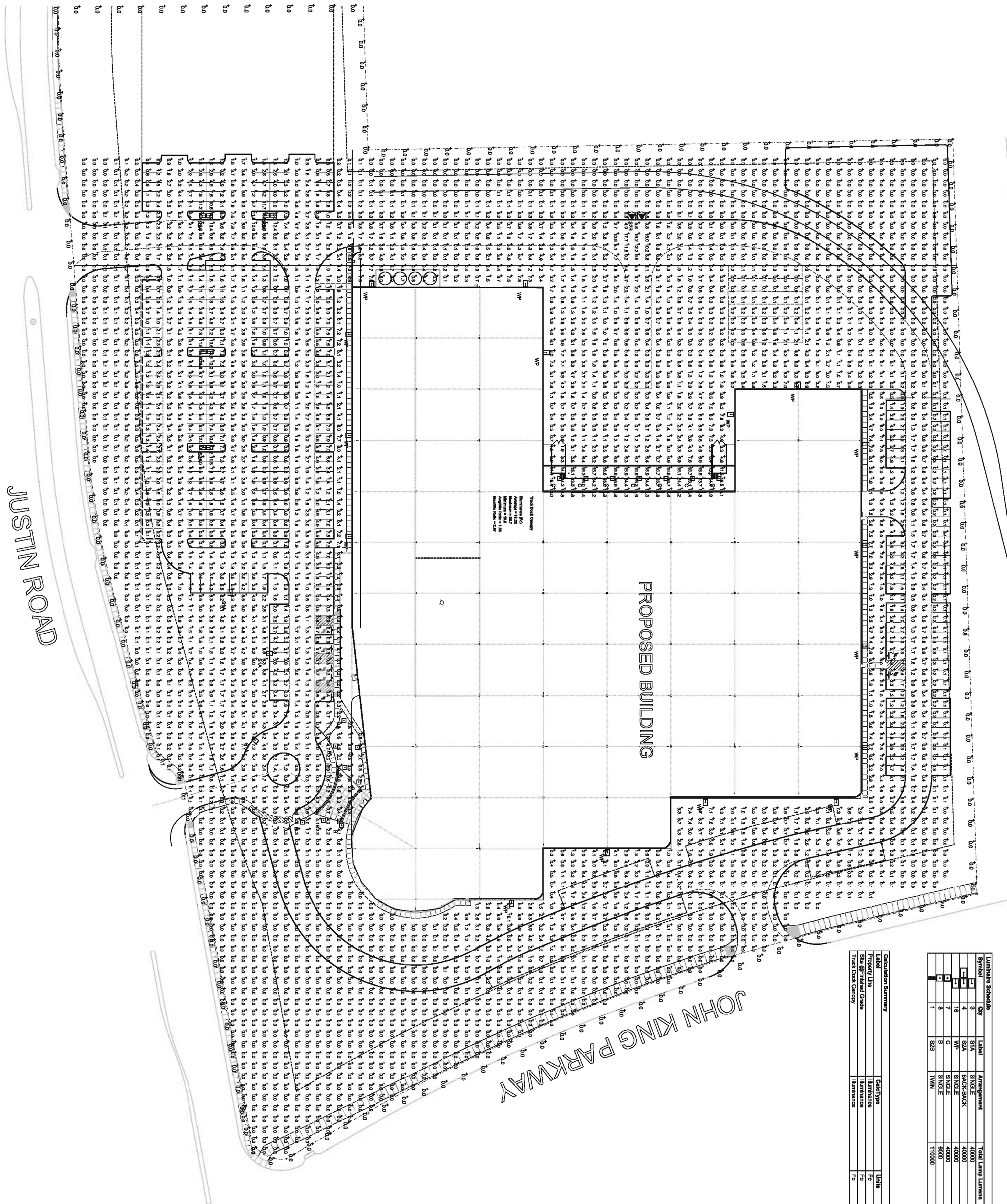
$DATE$
$FILE$



Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF
	3	S1A	SINGLE	40000	0.800
	4	S2A	BACK-BACK	40000	0.800
	16	WP	SINGLE	40000	0.800
	7	C	SINGLE	40000	0.800
	8	B	SINGLE	6000	0.900
	1	S2B	TWIN	110000	0.750

Luminaire Schedule	
Description	
MPTR-SS-400	
MPTR-SS-400	
MPTR-SS-400	
MPTR-SL-400	
MPCL-400	
BSL-XX-70-MP	
GSM-1000-MH-FT-FG-EHS	

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Property Line	Illuminance	Fc	0.00	0.2	0.0	N.A.	N.A.
Site @Finished Grade	Illuminance	Fc	1.66	26.7	0.0	N.A.	N.A.
Truck Dock Canopy	Illuminance	Fc	18.32	26.7	10.0	1.83	2.87

Calculation Summary		
Label	PtSpcLr	PtSpcTb
Property Line	20	N.A.
Site @Finished Grade	N.A.	10
Truck Dock Canopy	10	

Luminaire Location Summary

LumNo	Label	Fixture Height
1	B	3.5
2	B	3.5
3	B	3.5
4	B	3.5
5	B	3.5
6	B	3.5
7	B	3.5
8	B	3.5
9	C	17
10	C	17
11	C	17
12	C	17
13	C	17
14	C	17
15	C	17
16	S1A	20
17	S1A	20
19	S2A	20
20	S2A	20
21	WP	20
22	WP	20
23	WP	20
24	WP	20
25	WP	20
26	WP	20
27	WP	20
28	WP	20
29	WP	20
30	WP	20
31	WP	20
32	WP	20
33	WP	20
34	WP	20
35	WP	20
36	WP	20
39	S2B	27.5
40	S1A	20
41	S2A	20
44	S2A	20

NORTH

1 SITE PLAN

SCALE: 1"=50'-0"

BUILD-TO-SUIT

CHANNELL

ROCKWALL, TEXAS

pross design group, incorporated
5310 Harvest Hill Road, Suite 180, Dallas, Texas 75230. 972/759-1400

STATE OF TEXAS — BHUPENDRA PATEL — LICENSED PROFESSIONAL ENGINEER

FOX ELECTRIC, LTD.
1104 COLORADO LANE
ARLINGTON, TEXAS 76015
(817) 461-2371

BOB MOORE CONSTRUCTION, INC.
1110 N. WATSON ROAD ARLINGTON, TEXAS 76011
(817) 640-1200
WWW.GENERALCONTRACTOR.COM

drawn: DMS
checked MIKE SEEBOLD
date 06/12/14

job no 1423
sheet E1.01

McGRAW-EDISON®

energy solutions

DESCRIPTION

The McGraw-Edison BSL / BRL Bollard Series, available in heights from 24" to 42", has crisp, clean lines which blend with any architectural setting. Constructed of seamless, heavy-duty aluminum and finished with a tough polyester powder coat finish, the McGraw-Edison Louvered Bollard Series is gasketed to seal out external contaminants. U.L. 1598 listed and CSA certified for wet locations.

Bollards are designed for walkways, entranceways, drives and other small-area lighting applications where low mounting heights are desirable.

		Type
Catalog #	BSL-36-70-MP-277-BZ	B
Project	CHANNELL	
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
TOP: Rugged, minimum 5/32" thick cast aluminum top cap secured via a concealed stainless steel allen screw with twist removal mechanism for lamp access. Flow through ventilation assure cool to the touch top. LOUVERS: Cast Aluminum Louver blades provide sharp cutoff delivering no direct light above 90°. Louvers are secured to the shaft via tamper stainless steel rods and fasteners. LOWER HOUSING: Nominal 1/8" thick aluminum extruded housing. Bollard housing is secured to the base with flathead, counter-sunk screws for smooth, uncluttered appearance. BASE: Rugged cast aluminum. Completely concealed.

Electrical
HID High Power Factor ballast for -20°F starting. CFL Electronic ballast for 0°F starting. Product is factory mounted to the base. Quick disconnects provided between lamp and electrical assembly. Metal Halide and High Pressure Sodium lamp sources up to 100W and up to 42W Compact Fluorescent sources.

Optical
LAMP ENCLOSURE: One piece tempered glass with internal flutes for even disbursement of illumination. Decorative colored glass optional. Globe is fully gasketed via EPDM material. Socket is porcelain, medium-base for HID lamp sources and polycarbonate/PBT GX24q-3/q-4 base for compact fluorescent lamps.

Mounting
Base mounts onto foundation with three (3) 1/2" x 12 1/2" anchor bolts on a 5" Dia. bolt circle (a centrally located 2 7/8" x 3 1/2" wire entrance opening provided).

Finish
Premium fade and abrasion resistant, TGIC Polyester Powder Coat Finish. Standard colors are Black, Grey, Bronze, White, Dark Platinum and Graphite Metallic. Other finish colors available including all RAL matches.

BSL/BRL
BOLLARD

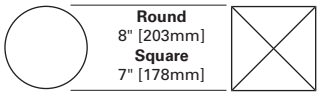
26 - 100W
Pulse Start Metal Halide
High Pressure Sodium
Compact Fluorescent
Incandescent

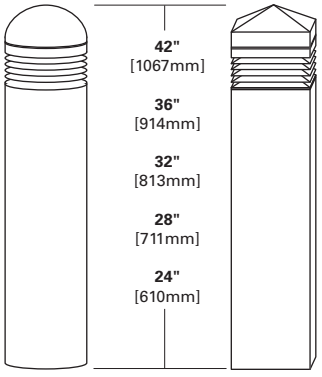
PATHWAY LUMINAIRE

DARK SKY COMPLIANT — CO Cutoff

NOTE: In select finishes only.

DIMENSIONS





WATTAGE TABLE

Lamp Type	Wattage
Pulse Start Metal Halide (MP)	50, 70, 100W
High Pressure Sodium (HPS)	35, 50, 70, 100W
Compact Fluorescent (CF)	(1) 26, (1) 32, (1) 42W
Incandescent (IN)	100W

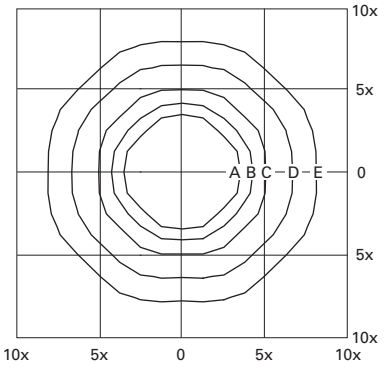
Energy Data
Reactor Ballast Input Watts
35W HPS NPF (46 Watts)

High Reactance Ballast Input Watts
50W HPS HPF (62 Watts)
50W MP HPF (69 Watts)
70W HPS HPF (86 Watts)
70W MP HPF (94 Watts)
100W HPS HPF (115 Watts)
100W MP HPF (129 Watts)
150W HPS HPF (170 Watts)
150W MP HPF (185 Watts)

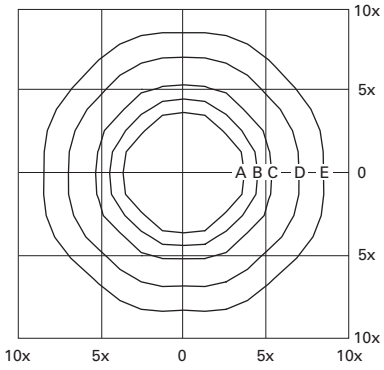
SHIPPING DATA

Approximate Net Weight:
26 lbs. (12 kgs.)

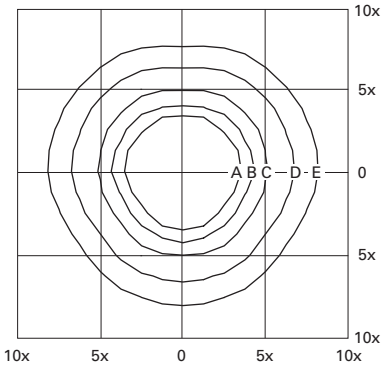
PHOTOMETRICS



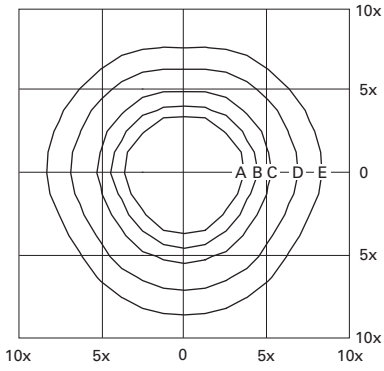
BSL-36-100-MP
100-Watt MP
7,900-Lumen Lamp (Coated ED-17)



BSL-36-100-HPS
100-Watt HPS
8,800-Lumen Lamp (Coated ED-17)



BRL-36-100-MP
100-Watt MP
7,900-Lumen Lamp (Coated ED-17)



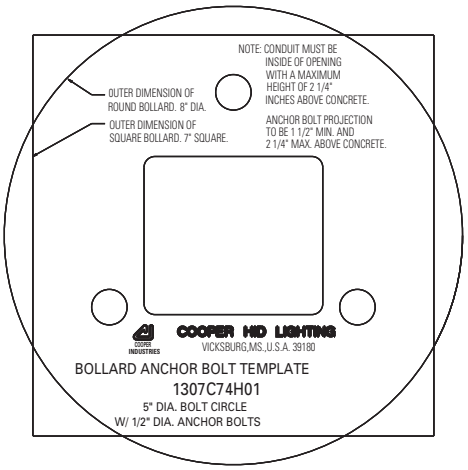
BRL-36-100-HPS
100-Watt HPS
8,800-Lumen Lamp (Coated ED-17)

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	**B**	**C**	**D**	**E**
42"	1.20	0.60	0.30	0.12	0.06
36"	2.00	1.00	0.50	0.20	0.10
32"	2.40	1.20	0.60	0.24	0.12
28"	3.20	1.60	0.80	0.32	0.16
24"	4.40	2.20	1.10	0.44	0.22

ANCHOR BOLT TEMPLATE (NOT TO SCALE)



ORDERING INFORMATION

BSL-36-70-MP-277-BZ

BSL	36	70	MP	277	BZ	

Product Family
- **BSL**=Square Bollard with Stacked Louvers and Pyramidal Top
- **BRL**=Round Bollard with Stacked Louvers and Dome Top

Fixture Height
- **24**=24"
- **28**=28"
- **32**=32"
- **36**=36"
- **42**=42"

Lamp Wattage [1]

MP
- **50**=50W
- **70**=70W
- **100**=100W

HPS
- **35**=35W[2]
- **50**=50W
- **70**=70W
- **100**=100W

CF
- **26**= (1) 26W
- **32**= (1) 32W
- **42**= (1) 42W

IC
- **100**= 100W

Lamp Type
- **MP**=Pulse Start Metal Halide
- **HPS**=High Pressure Sodium
- **CF**=Compact Fluorescent
- **IC**=Incandescent

Voltage [3]
- **120**=120V
- **208**=208V
- **240**=240V
- **277**=277V
- **347**=347V
- **MT**=Multi-Tap[4]
- **TT**=Triple-Tap[4]
- **UNV**=Universal[5] 120-277V

Color [6]
- **AP**=Grey
- **BZ**=Bronze
- **BK**=Black
- **WH**=White
- **DP**=Dark Platinum
- **GM**=Graphite Metallic

Options [7]
- **F**=Single Fuse (120, 277 or 347V)
- **FF**=Double Fuse (208, 240 or 480V)
- **L**=Lamp Included[8]
- **R1**=Provisional cut for GFI Receptacle[9]
- **R2**=Installed GFI Receptacle[9]
- **CF/EM**=Emergency Battery Pack[10]
- **AB**=Aqua Marine Blue Glass Jar
- **HG**=Hunter Green Glass Jar
- **OR**=Orange Glass Jar
- **RB**=Royal Blue Glass Jar
- **RE**= Red Glass Jar

Notes:
1. HID lamps are medium base. 175W MH is available for non-U.S. markets only.
2. 35W HPS available in 120V only.
3. Products also available in non-US voltages and 50Hz for international markets. Consult factory for availability and ordering information.
4. Multi-Tap ballast is 120/208/240/277V wired 277V. Triple-Tap ballast is 120/277/347V wired 347V.
5. Compact Fluorescent only Electronic ballast universal voltage 120-277V.
6. Other finish colors available, including a full line of RAL color matches. Consult your Cooper Lighting Representative.
7. Add as suffix in the order shown.
8. Coated lamp standard. Must specify clear lamp if desired.
9. Location of R1 and R2 option on housing subject to height of luminaire.
10. CF lamps only, rated minimum operating temperature 32° F (0° C).

COOPER LIGHTING - LUMARK®

energy solutions

DESCRIPTION

The Lumark Tribute is the most versatile, functionally designed, universally adaptable outdoor luminaire available. The Tribute brings outstanding performance to walkways, parking lots, roadways, loading docks, building areas, and any security lighting application. U.L. listed and CSA certified for wet locations.

Catalog #	BSL-36-70-MP-277-BZ	Type
Project	CHANNELL	B
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
Rugged one-piece die-cast aluminum housing and door frame. One-piece silicone gasket protects the optical chamber from performance degrading contaminants. One (1) stainless spring latch and two (2) stainless hinges allow toolless opening and removal of door frame.

Reflector
Choice of nine (9) high efficiency optical distributions, including five (5) segmented optical systems constructed of premium 95% reflective odized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Optical modules are field rotatable in 90° increments and offered standard with mogul base lampholders for High Pressure Sodium and 200-400W Metal Halide assemblies or medium-base lampholders for Metal Halide 150W and below.

Electrical
Ballast and related electrical componentry are hard mounted to die-cast housing for optimal heat transfer and operating efficiency. Optional swing-down galvanized steel power tray with integral handle and quick disconnects allows tray to be completely removed from housing providing ample room for fixture installation and maintenance.

Mounting
Extruded 8" aluminum arm features internal bolt guides for easy positioning of fixture during installation to pole or wall surface.

Standard single carton packaging of housing, square pole arm and round pole adapter allow for consolidated product arrival to site. Optional internal mast arm mount accepts a 1 1/4" to 2 3/8" O.D. horizontal tenon, while a 4-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment.

Finish
Housing and arm finished in a 5 stage premium TGIC bronze polyester powder coat paint. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

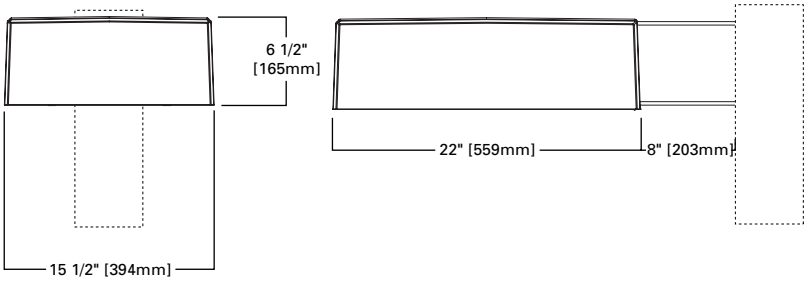
TR
TRIBUTE

70 - 400W
High Pressure Sodium
Pulse Start Metal Halide
Metal Halide

AREA LUMINAIRE

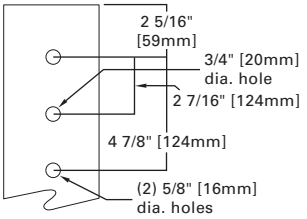
DARK SKY COMPLIANT FCO Full Cutoff

DIMENSIONS

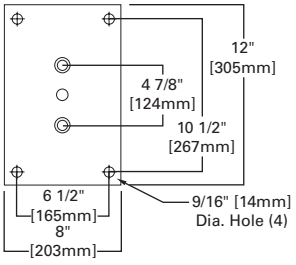


DRILLING PATTERNS

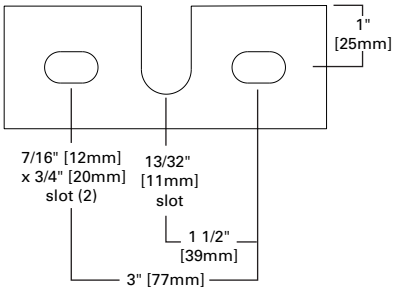
TYPE "M"



WALL MOUNT (MA1219-XX)



TRUNNION MOUNT



TECHNICAL DATA

UL Wet Locations Listed
CSA Certified
EISA Compliant Ⓔ

ENERGY DATA

Hi-Reactance Ballast Input Watts
70W HPS HPF (95 Watts)
100W HPS HPF (130 Watts)
150W HPS HPF (190 Watts)
150W MP HPF (185 Watts)

CWI Ballast Input Watts
250W HPS HPF (300 Watts)

CWA Ballast Input Watts
175W MH HPF (210 Watts)
200W MP HPF (227 Watts) Ⓔ
200W HPS HPF (250 Watts)
250W MH HPF (295 Watts)
250W MP HPF (283 Watts) Ⓔ
320W MP HPF (365 Watts) Ⓔ
350W MP HPF (397 Watts) Ⓔ
400W MP HPF (452 Watts) Ⓔ
400W MH HPF (455 Watts)
400W HPS HPF (465 Watts)

EPA

Effective Projected Area: (Sq. Ft.)
Without Arm: 1.19

SHIPPING DATA

Approximate Net Weight:
39 lbs. (17.73 kgs.)

ISO SYSTEMS CERTIFIED

ORDERING INFORMATION

MPTR-SL-400-480V

MP	TR	SL	400	480V			See Below

Lamp Type
- **MP**=Pulse Start Metal Halide
- **MH**=Metal Halide
- **HP**=High Pressure Sodium

Series [1]
- **TR**= Tribute (Arm Included)

Distribution
- **2F**=Type II Formed
- **2S**=Type II Segmented
- **3F**=Type III Formed
- **3S**= Type III Segmented
- **4F**= Type IV Formed
- **4S**= Type IV Segmented
- **5F**= Type V Formed
- **5S**= Type V Segmented
- **SL**= Spill Light Eliminator

Lamp Wattage [2]

MP
- **70**=70W
- **100**=100W
- **150**=150W
- **200**= 200W
- **250**= 250W
- **320**= 320W
- **350**= 350W
- **400**= 400W[3]

MH
- **175**= 175W[4]
- **250**= 250W[4]
- **400**= 400W[3, 4]

HPS
- **70**= 70W
- **100**= 100W
- **150**= 150W
- **250**= 250W
- **400**= 400W[3]

Voltage [5]
- **120V**=120V
- **208V**=208V
- **240V**=240V
- **277V**=277V
- **347V**=347V[6]
- **480V**=480V
- **DT**=Dual-Tap
- **MT**=Multi-Tap, wired 277V
- **TT**=Triple-Tap, [6] wired 347V
- **5T**=5 Tap Wired[5] 480V

Options
- **F1**=Single Fuse (120, 277 or 347V[7] only)
- **F2**=Double Fuse (208, 240 or 480V[7] only)
- **Q**= Quartz Restrike (Hot Strike Only)[8]
- **EM**= Quartz Restrike with "Delay Relay" (Quartz lamp strikes at both hot and cold starts) [8]
- **EM/SC**= Emergency Separate[8] Circuit
- **LL**= Lamp Included
- **S**= 1 1/4" - 2 3/8" Internal Mast Arm Mount
- **TM**= Trunnion Mount
- **CEC**= California Title 20 Compliant Ballast (Applies to 200-320W and 400W MP only)
- **PT**= Electrical Power Tray
- **PER**= NEMA Twistlock Photocontrol Receptacle
- **PC**= Button Type Photocontrol[9]
- **HS**=House Side Cutoff[10]
- **LA**=Less Arm (Order Mounting Separately)

Standard Color
- __=Bronze (Standard)
- **WH**=White
- **BK**=Black
- **AP**=Grey
- **DP**=Dark Platinum
- **GM**=Graphite Metallic

Accessories [11]
- **MA1201-BZ**=Direct Wall Mount Kit[1]
- **MA1218-BZ**=Direct Mount for Pole[1]
- **MA1219-BZ**=Wall Mounting Plate
- **OA1090-BZ**=Adjustable slipfitter Arm for Tenon Mount 2 3/8" O.D.[1]
- **MA1221-BZ**= External House Side Shield Kit (EPA= 0.38)
- **MA1222**= Internal House Side Shield Kit for 2S/3S
- **MA1223**= Internal House Side Shield Kit 4S
- **MA1224**= Internal House Side Shield Kit for 2F/3F
- **MA1225**= Internal House Side Shield Kit for 4F
- **MA1010-BZ**= SingleTenon Adapter for 3 1/2" O.D. Tenon
- **MA1011-BZ**= 2 @ 180 degrees Tenon Adapter for 3 1/2" O.D.Tenon
- **MA1012-BZ**= 3 @ 120 degrees Tenon Adaptor for 3 1/2" O.D. Tenon
- **MA1013-BZ**= 4 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1014-BZ**= 2 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1015-BZ**= 2 @ 120 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1016-BZ**= 3 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1017-BZ**= Single Tenon Adapter for 2 3/8 " O.D. Tenon
- **MA1018-BZ**= 2 @ 180 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1019-BZ**= 3 @ 120 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1045-BZ**= 4 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1048-BZ**=2 @ 90 degrees Tenon Adapter for 2 3/8" O.D.Tenon
- **MA1049-BZ**=3 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **TR/VS**=Field Installed Vandal Shield[12]
- **OA/RA1013**=Photocontrol Shorting Cap
- **OA/RA1016**=NEMA Photocontrol - Multi-Tap
- **OA/RA1027**=NEMA Photocontrol 480V
- **OA/RA1201**=NEMA Photocontrol 347V

Notes: 1 8 Inch Arm and pole adapter included with fixture. Specify Less Arm "LA" option when mounting accessory is ordered separately. 2 150W and below in Pulse Start Metal Halide are medium base sockets. All other wattages are mogul base. 3 Requires reduced envelope lamp. 4 175W, 250W, and 400W MH available in non-U.S. markets only. 5 Products also available in non-US voltages and 50HZ for international markets. Consult your Cooper Representative for availabiltiy and ordering information. 5T only available in 400W MH. 6 88% efficient EISA Compliant MP fixtures not available in 347V or TT Voltages. 7 Must specify voltage. 8 Quartz options not available with SL optics. 9 Specify 120V, 208V, 240V, or 277V only. 10 House side shield not available on 5S, 5F, or SL optics. 11 Order separately/replace XX with color specification. 12 Not available with SLE or House Side Sheild.

STOCK SAMPLE NUMBER (Lamp Included)

SAMPLE NUMBER: MPTR2340

MP	TR	23	

Lamp Type
MP=Pulse Start Metal Halide
HP=High Pressure Sodium [2]

Series [1]
TR=Tribute

Distribution
23=Type II/III Formed

Lamp Wattage
15=150W
25=250W
32=320W
40=400W

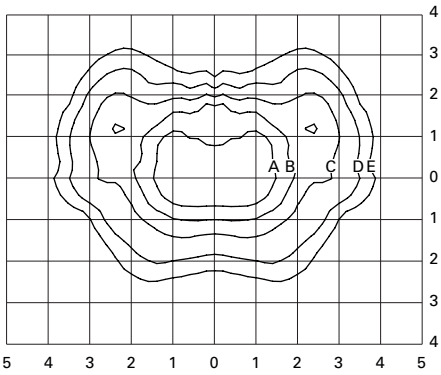
NOTES:

[1] Short logic fixtures are finished bronze include multi-tap ballast, lamp, arm and round pole adapter. Other options not available. Refer to standard ordering logic. [2] Available in 150, 250 and 400 Watt. Refer to In Stock Guide for availability.

VOLTAGE CHART	
DT=Dual-Tap	120/277 (wired 277V)
MT=Multi-Tap	120/208/240/277 (wired 277V)
TT=Triple-Tap	120/277/347 (wired 347V)
5T=5-Tap	120/208/240/277/480 (wired 480V)

LAMP TYPE	WATTAGE
Pulse Start Metal Halide	70, 100, 150, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	70, 100, 150, 250, 400W

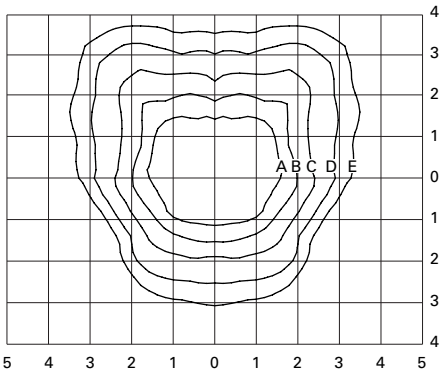
PHOTOMETRICS [Complete IES files available at www.cooperlighting.com]



MPTR-3S-320
320—Watt MP
30,000—Lumen Clear Lamp
Type III Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

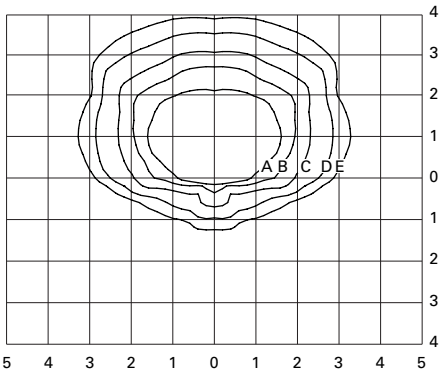
Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



MPTR-4S-400
400—Watt MP
40,000—Lumen Clear Lamp
Type IV Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



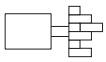
MPTR-SL-400
400—Watt MP
40,000—Lumen Clear Lamp
Spill Light Eliminator

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06

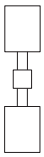
MOUNTING CONFIGURATIONS

Wall Mount

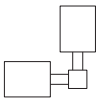


Arm Mount Single
EPA: 1.62

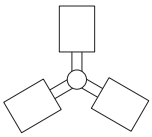
Arm Mount 2 @ 180
EPA: 3.24



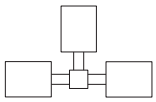
Arm Mount 2 @ 90
EPA: 3.24



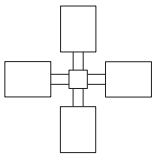
Arm Mount 3 @ 120
(Round Pole Only)
EPA: 4.43



Arm Mount 3 @ 90
EPA: 4.43



Arm Mount 4 @ 90
EPA: 5.03



DESCRIPTION

Galleria's beauty and versatility make it an excellent choice for roadway and general area lighting applications. An aesthetic reveal in the formed aluminum housing gives the Galleria a distinctive look while a variety of mounting options and lamp wattages provide maximum flexibility.

Galleria's superior light distributions makes it the optimum choice for almost any small, medium or large area lighting application.

Catalog #	BSL-36-70-MP-277-BZ	Type
Project	CHANNELL	B
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
HOUSING: Formed aluminum housing with stamped reveal has interior-welded seams for structural integrity and is finished in premium TGIC polyester powder coat. U.L. listed and CSA certified for wet locations. DOOR: Formed aluminum door has heavy-duty hinges, captive retaining screws and is finished in premium TGIC polyester powder coat. (Spider mount unit has steel door.)

Electrical
BALLAST TRAY: Ballast tray is hard-mounted to housing interior for cooler operation.

Optical
REFLECTOR: Choice of 14 high efficiency optical systems utilizing horizontal and vertical lamp orientations. Optional high efficiency segmented optical systems constructed of premium 95% reflective anodized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Standard with mogul-base socket. All optical modules feature quick disconnect wiring plugs and are field rotatable in 90° increments. LENS: Convex tempered glass lens or flat glass.

Mounting
Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during assembly. Specify arm-included mounting for contractor-friendly single carton packaging of housing and arm.

GSS/GSM/GSL
GALLERIA SQUARE

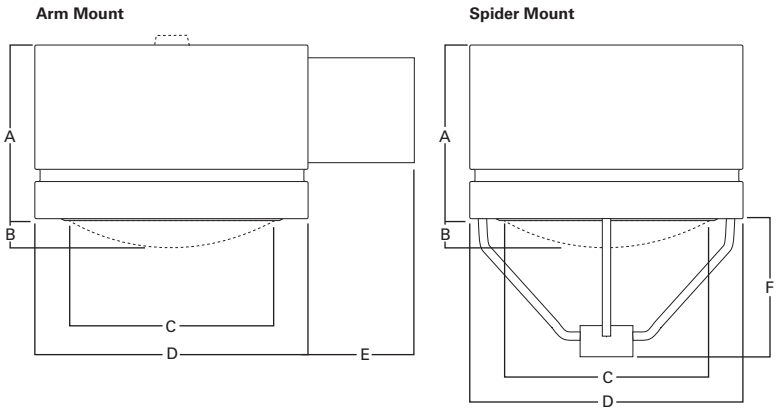
70 - 1000W
Pulse Start Metal Halide
High Pressure Sodium
Metal Halide

ARCHITECTURAL AREA LUMINAIRE

DARK SKY COMPLIANT FCO Full Cutoff

NOTE: In all flat glass configurations only.

DIMENSIONS

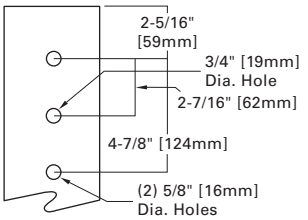


Fixture	A	B	C	D	E	F
GSS	9-1/4" 235mm	1-1/2" 38mm	12-7/8" 327mm	15-5/8" 397mm	6" or 9" 152mm or 229mm	13-1/4" 337mm
GSM	11" 279mm	3-1/2" 89mm	19-1/4" 480mm	21-3/4" 552mm	6" or 14" 152mm or 356mm	15" or 16" 381mm or 406mm
GSL	14-1/2" 368mm	4-1/4" 108mm	25-7/8" 657mm	27" 686mm	6" or 14" 152mm or 356mm	18-3/4" or 19-3/4" 476mm or 502mm

NOTE: Top cap used on GSM with 1000W flat glass vertically lamped optics only.

ARM DRILLING

TYPE "M"



WATTAGE TABLE

Fixture	Lamp Type	Wattage
GSS (Galleria Small)	Pulse Start Metal Halide (MP)	70, 100, 150W
	High Pressure Sodium (HPS)	70, 100, 150W
	Metal Halide (MH)	175W
GSM (Galleria Medium)	Pulse Start Metal Halide (MP)	70, 100, 150, 175, 200, 250, 320, 350, 400, 450, 750, 875, 1000W
	High Pressure Sodium (HPS)	70, 100, 150, 250, 400, 750, 1000W
	Metal Halide (MH)	175, 250, 400, 1000W
GSL (Galleria Large)	Pulse Start Metal Halide (MP)	250, 320, 350, 400, 450, 750, 1000W
	High Pressure Sodium (HPS)	250, 400, 750, 1000W
	Metal Halide (MH)	250, 400, 1000W

ENERGY DATA

CWA Ballast Input Watts
150W MP HPF (185 Watts)
175W MP HPF (198 Watts) Ⓔ
250W MP HPF (283 Watts) Ⓔ
250W HPS HPF (295 Watts)
400W MP HPF (452 Watts) Ⓔ
400W HPS HPF (457 Watts)
750W MP HPF (820 Watts)
1000W MH HPF (1080 Watts)
1000W HPS HPF (1100 Watts)

EPA
Effective Projected Area: (Sq. Ft.)
[Without Arm]
GSS: 1.20 **GSM**: 2.40 **GSL**: 3.90
[Spider Mount]
GSS: 1.53 **GSM**: 2.86 **GSL**: 4.45

SHIPPING DATA

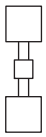
Approximate Net Weight:
36 lbs. (16 kgs.)
79 lbs. (36 kgs.)
88 lbs. (40 kgs.)

MOUNTING CONFIGURATIONS

Wall Mount

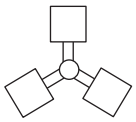
Arm Mount Single

Arm Mount 2 @ 180°

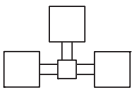


Arm Mount 2 @ 90°

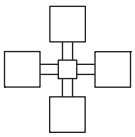
Arm Mount 3 @ 120°
(Round Pole Only)



Arm Mount 3 @ 90°



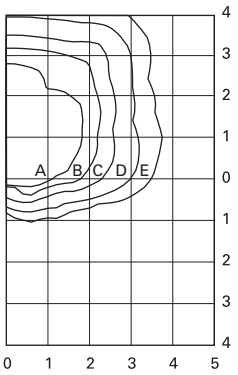
Arm Mount 4 @ 90°



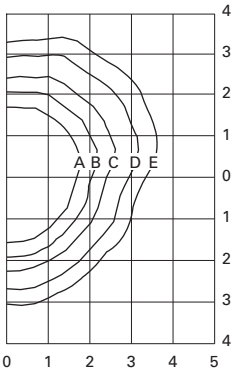
E.P.A. TABLE

	Single [w/arm where applicable]	2 @ 180°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
GSS	1.7	3.4	3.4	4.6	4.6	5.2
GSM	2.9	5.8	6.8	9.2	9.2	10.4
GSL	4.4	8.8	9.8	13.7	13.7	15.6

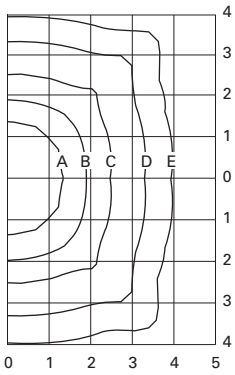
PHOTOMETRICS



GSM-XX-1000-MH-SL-FG
1000-Watt MH
110,000-Lumen Clear Lamp
Spill Light Eliminator
Flat Glass



GSM-XX-1000-MH-3V-FG
1000-Watt MH
110,000-Lumen Clear Lamp
Type III Vertical
Flat Glass



GSM-XX-1000-MH-AS-SG
1000-Watt MH
110,000-Lumen Clear Lamp
Area Square
Flat Glass

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
1000W [SL] / 400W [AR]					
25'	2.88	1.44	0.72	0.29	0.14
30'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
35'	1.46	0.73	0.37	0.15	0.07
1000W [3V/AS]					
30'	3.50	2.00	1.00	0.50	0.20
35'	2.60	0.73	0.37	0.18	0.07
40'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**

ORDERING INFORMATION

GSM-AIS-1000-MP-480-FT-FG-BZ

GSM	AIS	1000	MP	480	FT	FG	BZ		BZ

Product Family
- **GSS**=Galleria Square Small
- **GSM**=Galleria Square Medium
- **GSL**=Galleria Square Large

Mounting Method
- **AM**=Arm Mount[1]
- **AIR**=Arm Included for[2] Round Pole
- **AIS**=Arm Included for[2] Square Pole
- **SM1**=Spider Mount[3] (2 3/8" OD Tenon)
- **SM2**=Spider Mount (3" OD Tenon)
- **SM3**=Spider Mount[4] (3 1/2" OD Tenon)

Lamp Wattage [5]

MP
- **70**=70W
- **100**=100W
- **150**=150W
- **175**=175W
- **200**=200W
- **250**=250W
- **320**=320W
- **350**=350W
- **400**=400W[6]
- **450**=450W
- **750**=750W
- **875**=875W
- **1000**=1000W[7]

HPS
- **70**=70W
- **100**=100W
- **150**=150W
- **250**=250W
- **400**=400W
- **750**=750W
- **1000**=1000W[7]

MH [8]
- **175**=175W
- **250**=250W
- **400**=400W
- **1000**=1000W[7]

Lamp Type
- **MP**=Pulse Start Metal Halide
- **HPS**=High Pressure Sodium
- **MH**=Metal Halide[8]

Voltage [9]
- **120**=120V
- **208**=208V
- **240**=240V
- **277**=277V
- **347**=347V
- **480**=480V
- **MT**=Multi-Tap[10]
- **TT**=Triple-Tap[10]
- **5T**=5-Tap[11]

Distribution

Horizontal Lamp
- **1F**=Type I Formed[12]
- **2F**=Type II Formed
- **2S**=Type II Segmented[13]
- **3F**=Type III Formed
- **3S**=Type III Segmented[13]
- **4S**=Type IV Segmented[13]
- **5S**=Type V Segmented[13]
- **FT**=Forward Throw
- **SL**=Spill Light Eliminator[14]
- **CA**=Cutoff Asymetric with EHS [15]

Vertical Lamp
- **AR**=Area Round
- **AS**=Area Square[15]
- **3V**=Type III Vertical[15]
- **RW**=Rectangular Wide[15, 16]

Lens Type
- **FG**=Flat Glass[17]
- **SG**=Sag Glass

Color [18]
- **AP**=Grey
- **BZ**=Bronze
- **BK**=Black
- **WH**=White
- **DP**=Dark Platinum
- **GM**=Graphite Metallic

Options [19]
- **CEC**=California Title 20 Compliant Ballast (Applies to 175-320W and 400W MP only)
- **F**=Single Fuse (120, 277 or 347V)
- **FF**=Double Fuse (208, 240 or 480V)
- **L**=Lamp Included
- **EM**=Quartz Restrike w/[20] Delay
- **Q**=Quartz Restrike[20]
- **R**=NEMA Twistlock Photocontrol Receptacle
- **EHS**=External Adjustable House Side Shield
- **HS**=House Side Shield[21, 22]
- **VS**=Vandal Shield[23]

Accessories [24]
- **GSM-EXTHS**=External House Side Shield - 2.24 EPA
- **GSL-EXTHS**=External House Side Shield - 2.46 EPA
- **MA1004BZ**=14" Arm for Square Pole. 1.0 EPA[15, 25]
- **MA1005BZ**=6" Arm for Square Pole. 0.5 EPA[15]
- **MA1006BZ**= Direct Mount Kit for Square Pole[15]
- **MA1007BZ**= 14" Arm for Round Pole. 1.0 EPA[15, 25]
- **MA1008BZ**= 6" Arm for Round Pole. 0.5 EPA[15]
- **MA1009BZ**= Direct Mount Kit for Round Pole[15]
- **MA1021BZ**= 6" Arm for Square Pole. 0.5 EPA[3]
- **MA1022BZ**= 6" Arm for Round Pole. 0.5 EPA[3]
- **MA1023BZ**= 9" Arm for Square Pole. 0.5 EPA[3, 25]
- **MA1024BZ**= 9" Arm for Round Pole. 0.5 EPA[3, 25]
- **MA1029BZ**= Wall Mount Bracket with 10" Arm
- **MA1046BZ**= Wall Mount Bracket[3]
- **MA1208BZ**= 11 1/2" Arm and Round Pole Adapter - . 0.8 EPA
- **OA1066BZ**= Mast Arm Adapter
- **MA1010BZ**= Single Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1011BZ**= 2@180° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1012BZ**=3@120° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1013BZ**=4@90° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1014BZ**=2@90° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1015BZ**=2@120° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1016BZ**=3@90° Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1017BZ**=Single Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1018BZ**=2@180° Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1019BZ**=3@120° Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1045BZ**=4@90° Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1048BZ**=2@90° Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1049BZ**=3@90° Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1060**=House Side Shield for GSS (Field Installed)[26]
- **MA1061**=House Side Shield for GSM (Field Installed)[26]
- **MA1062**=House Side Shield for GSL (Field Installed)[26]
- **OA/RA1016**=NEMA Twistlock Photocontrol - Multi-Tap
- **OA/RA1027**=NEMA Twistlock Photocontrol - 480V
- **OA/RA1201**=NEMA Twistlock Photocontrol - 347V

Notes:
1. Arm not included. See Accessories.
2. Arm length varies based on housing size: 9" for GSS, 11-1/2" for GSM and 14" for GSL.
3. Available on GSS housing only.
4. Available on GSL housing only.
5. Standard with medium-base sockets in GSS housing. Mogul-base sockets in GSM and GSL housings. Wattage availability varies by housing size - see Wattage Table.
6. Requires reduced envelope ED-28 lamp when used with GSM housing and flat glass vertically lamped optics.
7. Requires reduced envelope BT-37 lamp when used with GSM housing.
8. 175, 250 and 400W MH available for non-US markets only.
9. Products also available in non-US voltages and 50Hz for international markets. Consult factory for availability and ordering information.
10. Multi-Tap ballast is 120/208/240/277V wired 277V. Triple-Tap ballast is 277/347/480V wired 347V.
11. 5-Tap ballast is 120/2008/240/277/480V wired 480V. Only available in 400-1000W.
12. Medium housing fixture only.
13. Maximum wattage on segmented optical distributions is 400W. 400W Metal Halide lamp must use reduced envelope ED-28 lamp. Not available in GSL housing.
14. Must use reduced envelope lamp, not available in GSL housing.
15. Available on GSM and GSL housings only.
16. RW optic not available with flat glass.
17. 1000W GSL with flat glass requires BT-37 lamp and is not available in AS, RW, SL or 3V distributions.
18. Other finish colors available, including a full line of RAL color matches. Consult your Cooper Lighting Representative.
19. Add as suffix in the order shown.
20. Quartz options not available with SL optics.
21. House side shield not available with 5S, RW, AS, AR, SL and CA optics.
22. Not available in 1000W.
23. Arm mount only, 400W Maximum.
24. Order separately, replace XX with color suffix.
25. Use for mounting fixtures at 90 degree increments.
26. Compatible with sag lens vertical optics only.

COOPER LIGHTING - LUMARK®

energy solutions

DESCRIPTION

The Lumark Tribute is the most versatile, functionally designed, universally adaptable outdoor luminaire available. The Tribute brings outstanding performance to walkways, parking lots, roadways, loading docks, building areas, and any security lighting application. U.L. listed and CSA certified for wet locations.

Catalog #	BSL-36-70-MP-277-BZ	Type
Project	CHANNELL	B
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
Rugged one-piece die-cast aluminum housing and door frame. One-piece silicone gasket protects the optical chamber from performance degrading contaminants. One (1) stainless spring latch and two (2) stainless hinges allow toolless opening and removal of door frame.

Reflector
Choice of nine (9) high efficiency optical distributions, including five (5) segmented optical systems constructed of premium 95% reflective odized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Optical modules are field rotatable in 90° increments and offered standard with mogul base lampholders for High Pressure Sodium and 200-400W Metal Halide assemblies or medium-base lampholders for Metal Halide 150W and below.

Electrical
Ballast and related electrical componentry are hard mounted to die-cast housing for optimal heat transfer and operating efficiency. Optional swing-down galvanized steel power tray with integral handle and quick disconnects allows tray to be completely removed from housing providing ample room for fixture installation and maintenance.

Mounting
Extruded 8" aluminum arm features internal bolt guides for easy positioning of fixture during installation to pole or wall surface.

Standard single carton packaging of housing, square pole arm and round pole adapter allow for consolidated product arrival to site. Optional internal mast arm mount accepts a 1 1/4" to 2 3/8" O.D. horizontal tenon, while a 4-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment.

Finish
Housing and arm finished in a 5 stage premium TGIC bronze polyester powder coat paint. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

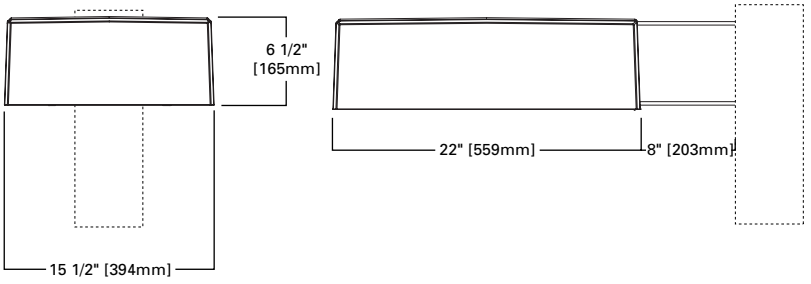
TR
TRIBUTE

70 - 400W
High Pressure Sodium
Pulse Start Metal Halide
Metal Halide

AREA LUMINAIRE

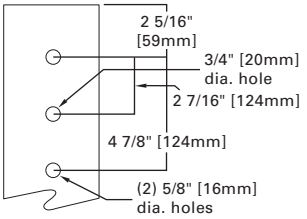
DARK SKY COMPLIANT FCO Full Cutoff

DIMENSIONS

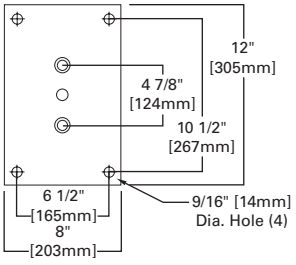


DRILLING PATTERNS

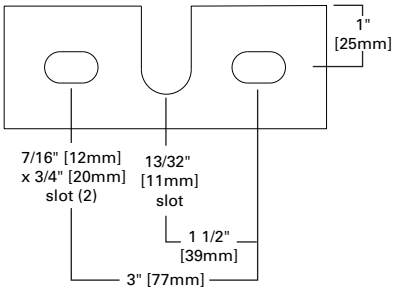
TYPE "M"



WALL MOUNT (MA1219-XX)



TRUNNION MOUNT



TECHNICAL DATA

UL Wet Locations Listed
CSA Certified
EISA Compliant Ⓔ

ENERGY DATA

Hi-Reactance Ballast Input Watts
70W HPS HPF (95 Watts)
100W HPS HPF (130 Watts)
150W HPS HPF (190 Watts)
150W MP HPF (185 Watts)

CWI Ballast Input Watts
250W HPS HPF (300 Watts)

CWA Ballast Input Watts
175W MH HPF (210 Watts)
200W MP HPF (227 Watts) Ⓔ
200W HPS HPF (250 Watts)
250W MH HPF (295 Watts)
250W MP HPF (283 Watts) Ⓔ
320W MP HPF (365 Watts) Ⓔ
350W MP HPF (397 Watts) Ⓔ
400W MP HPF (452 Watts) Ⓔ
400W MH HPF (455 Watts)
400W HPS HPF (465 Watts)

EPA

Effective Projected Area: (Sq. Ft.)
Without Arm: 1.19

SHIPPING DATA

Approximate Net Weight:
39 lbs. (17.73 kgs.)

ISO SYSTEMS CERTIFIED

ORDERING INFORMATION

MPTR-5S-400-480V

MP	TR	5S	400	480V			See Below

Lamp Type
- **MP**=Pulse Start Metal Halide
- **MH**=Metal Halide
- **HP**=High Pressure Sodium

Series [1]
- **TR**= Tribute (Arm Included)

Distribution
- **2F**=Type II Formed
- **2S**=Type II Segmented
- **3F**=Type III Formed
- **3S**= Type III Segmented
- **4F**= Type IV Formed
- **4S**= Type IV Segmented
- **5F**= Type V Formed
- **5S**= Type V Segmented
- **SL**= Spill Light Eliminator

Lamp Wattage [2]

MP
- **70**=70W
- **100**=100W
- **150**=150W
- **200**= 200W
- **250**= 250W
- **320**= 320W
- **350**= 350W
- **400**= 400W[3]

MH
- **175**= 175W[4]
- **250**= 250W[4]
- **400**= 400W[3, 4]

HPS
- **70**= 70W
- **100**= 100W
- **150**= 150W
- **250**= 250W
- **400**= 400W[3]

Voltage [5]
- **120V**=120V
- **208V**=208V
- **240V**=240V
- **277V**=277V
- **347V**=347V[6]
- **480V**=480V
- **DT**=Dual-Tap
- **MT**=Multi-Tap, wired 277V
- **TT**=Triple-Tap, [6] wired 347V
- **5T**=5 Tap Wired[5] 480V

Options
- **F1**=Single Fuse (120, 277 or 347V[7] only)
- **F2**=Double Fuse (208, 240 or 480V[7] only)
- **Q**= Quartz Restrike (Hot Strike Only)[8]
- **EM**= Quartz Restrike with "Delay Relay" (Quartz lamp strikes at both hot and cold starts) [8]
- **EM/SC**= Emergency Separate[8] Circuit
- **LL**= Lamp Included
- **S**= 1 1/4" - 2 3/8" Internal Mast Arm Mount
- **TM**= Trunnion Mount
- **CEC**= California Title 20 Compliant Ballast (Applies to 200-320W and 400W MP only)
- **PT**= Electrical Power Tray
- **PER**= NEMA Twistlock Photocontrol Receptacle
- **PC**= Button Type Photocontrol[9]
- **HS**=House Side Cutoff[10]
- **LA**=Less Arm (Order Mounting Separately)

Standard Color
- __=Bronze (Standard)
- **WH**=White
- **BK**=Black
- **AP**=Grey
- **DP**=Dark Platinum
- **GM**=Graphite Metallic

Accessories [11]
- **MA1201-BZ**=Direct Wall Mount Kit[1]
- **MA1218-BZ**=Direct Mount for Pole[1]
- **MA1219-BZ**=Wall Mounting Plate
- **OA1090-BZ**=Adjustable slipfitter Arm for Tenon Mount 2 3/8" O.D.[1]
- **MA1221-BZ**= External House Side Shield Kit (EPA= 0.38)
- **MA1222**= Internal House Side Shield Kit for 2S/3S
- **MA1223**= Internal House Side Shield Kit 4S
- **MA1224**= Internal House Side Shield Kit for 2F/3F
- **MA1225**= Internal House Side Shield Kit for 4F
- **MA1010-BZ**= SingleTenon Adapter for 3 1/2" O.D. Tenon
- **MA1011-BZ**= 2 @ 180 degrees Tenon Adapter for 3 1/2" O.D.Tenon
- **MA1012-BZ**= 3 @ 120 degrees Tenon Adaptor for 3 1/2" O.D. Tenon
- **MA1013-BZ**= 4 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1014-BZ**= 2 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1015-BZ**= 2 @ 120 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1016-BZ**= 3 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1017-BZ**= Single Tenon Adapter for 2 3/8 " O.D. Tenon
- **MA1018-BZ**= 2 @ 180 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1019-BZ**= 3 @ 120 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1045-BZ**= 4 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1048-BZ**=2 @ 90 degrees Tenon Adapter for 2 3/8" O.D.Tenon
- **MA1049-BZ**=3 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **TR/VS**=Field Installed Vandal Shield[12]
- **OA/RA1013**=Photocontrol Shorting Cap
- **OA/RA1016**=NEMA Photocontrol - Multi-Tap
- **OA/RA1027**=NEMA Photocontrol 480V
- **OA/RA1201**=NEMA Photocontrol 347V

Notes: 1 8 Inch Arm and pole adapter included with fixture. Specify Less Arm "LA" option when mounting accessory is ordered separately. 2 150W and below in Pulse Start Metal Halide are medium base sockets. All other wattages are mogul base. 3 Requires reduced envelope lamp. 4 175W, 250W, and 400W MH available in non-U.S. markets only. 5 Products also available in non-US voltages and 50HZ for international markets. Consult your Cooper Representative for availabiltiy and ordering information. 5T only available in 400W MH. 6 88% efficient EISA Compliant MP fixtures not available in 347V or TT Voltages. 7 Must specify voltage. 8 Quartz options not available with SL optics. 9 Specify 120V, 208V, 240V, or 277V only. 10 House side shield not available on 5S, 5F, or SL optics. 11 Order separately/replace XX with color specification. 12 Not available with SLE or House Side Sheild.

STOCK SAMPLE NUMBER (Lamp Included)

SAMPLE NUMBER: MPTR2340

MP	TR	23	

Lamp Type
MP=Pulse Start Metal Halide
HP=High Pressure Sodium [2]

Series [1]
TR=Tribute

Distribution
23=Type II/III Formed

Lamp Wattage
15=150W
25=250W
32=320W
40=400W

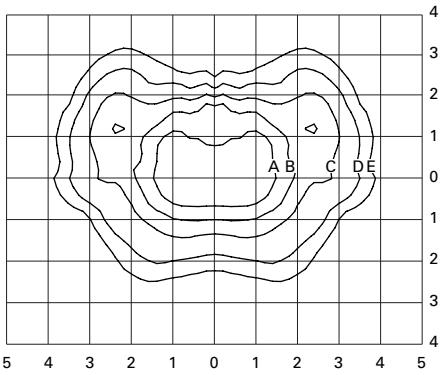
NOTES:

[1] Short logic fixtures are finished bronze include multi-tap ballast, lamp, arm and round pole adapter. Other options not available. Refer to standard ordering logic. [2] Available in 150, 250 and 400 Watt. Refer to In Stock Guide for availability.

VOLTAGE CHART	
DT=Dual-Tap	120/277 (wired 277V)
MT=Multi-Tap	120/208/240/277 (wired 277V)
TT=Triple-Tap	120/277/347 (wired 347V)
5T=5-Tap	120/208/240/277/480 (wired 480V)

LAMP TYPE	WATTAGE
Pulse Start Metal Halide	70, 100, 150, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	70, 100, 150, 250, 400W

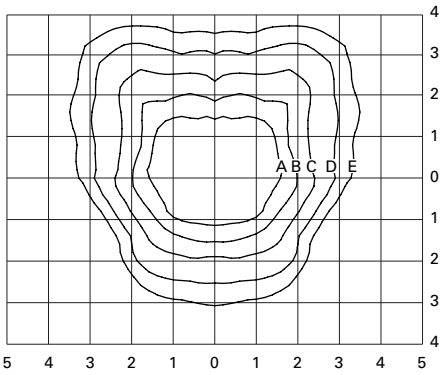
PHOTOMETRICS [Complete IES files available at www.cooperlighting.com]



MPTR-3S-320
320—Watt MP
30,000—Lumen Clear Lamp
Type III Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

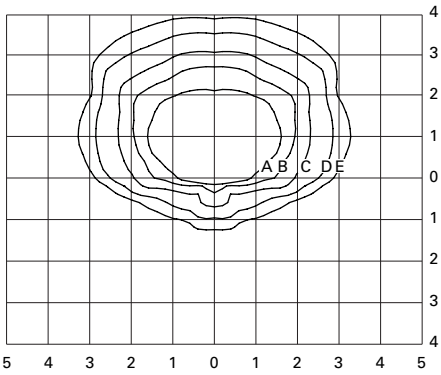
Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



MPTR-4S-400
400—Watt MP
40,000—Lumen Clear Lamp
Type IV Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



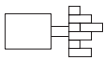
MPTR-SL-400
400—Watt MP
40,000—Lumen Clear Lamp
Spill Light Eliminator

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06

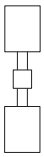
MOUNTING CONFIGURATIONS

Wall Mount

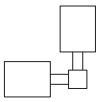


Arm Mount Single
EPA: 1.62

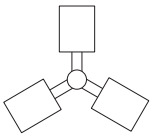
Arm Mount 2 @ 180
EPA: 3.24



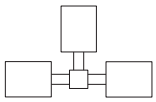
Arm Mount 2 @ 90
EPA: 3.24



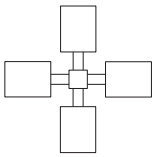
Arm Mount 3 @ 120
(Round Pole Only)
EPA: 4.43



Arm Mount 3 @ 90
EPA: 4.43



Arm Mount 4 @ 90
EPA: 5.03



COOPER LIGHTING - LUMARK®

energy solutions

DESCRIPTION

The Lumark Tribute is the most versatile, functionally designed, universally adaptable outdoor luminaire available. The Tribute brings outstanding performance to walkways, parking lots, roadways, loading docks, building areas, and any security lighting application. U.L. listed and CSA certified for wet locations.

Catalog #	BSL-36-70-MP-277-BZ	Type
Project	CHANNELL	B
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
Rugged one-piece die-cast aluminum housing and door frame. One-piece silicone gasket protects the optical chamber from performance degrading contaminants. One (1) stainless spring latch and two (2) stainless hinges allow toolless opening and removal of door frame.

Reflector
Choice of nine (9) high efficiency optical distributions, including five (5) segmented optical systems constructed of premium 95% reflective odized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Optical modules are field rotatable in 90° increments and offered standard with mogul base lampholders for High Pressure Sodium and 200-400W Metal Halide assemblies or medium-base lampholders for Metal Halide 150W and below.

Electrical
Ballast and related electrical componentry are hard mounted to die-cast housing for optimal heat transfer and operating efficiency. Optional swing-down galvanized steel power tray with integral handle and quick disconnects allows tray to be completely removed from housing providing ample room for fixture installation and maintenance.

Mounting
Extruded 8" aluminum arm features internal bolt guides for easy positioning of fixture during installation to pole or wall surface.

Standard single carton packaging of housing, square pole arm and round pole adapter allow for consolidated product arrival to site. Optional internal mast arm mount accepts a 1 1/4" to 2 3/8" O.D. horizontal tenon, while a 4-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment.

Finish
Housing and arm finished in a 5 stage premium TGIC bronze polyester powder coat paint. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

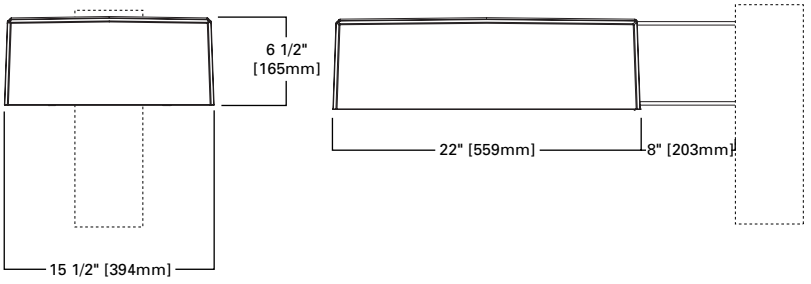
TR
TRIBUTE

70 - 400W
High Pressure Sodium
Pulse Start Metal Halide
Metal Halide

AREA LUMINAIRE

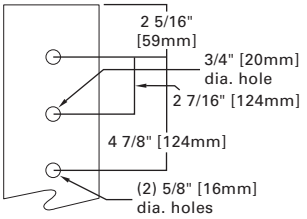
DARK SKY COMPLIANT FCO Full Cutoff

DIMENSIONS

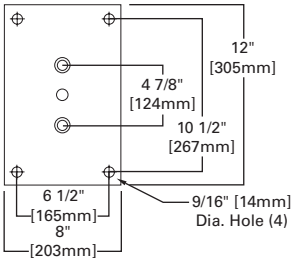


DRILLING PATTERNS

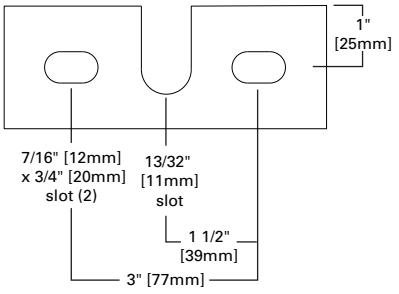
TYPE "M"



WALL MOUNT (MA1219-XX)



TRUNNION MOUNT



TECHNICAL DATA

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250W HPS HPF (300 Watts)

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175W MH HPF (210 Watts)
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250W MH HPF (295 Watts)
250W MP HPF (283 Watts) Ⓔ
320W MP HPF (365 Watts) Ⓔ
350W MP HPF (397 Watts) Ⓔ
400W MP HPF (452 Watts) Ⓔ
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Without Arm: 1.19

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- **SL**= Spill Light Eliminator

Lamp Wattage [2]

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- **100**=100W
- **150**=150W
- **200**= 200W
- **250**= 250W
- **320**= 320W
- **350**= 350W
- **400**= 400W[3]

MH
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- **250**= 250W[4]
- **400**= 400W[3, 4]

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- **MT**=Multi-Tap, wired 277V
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- **5T**=5 Tap Wired[5] 480V

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- **MA1012-BZ**= 3 @ 120 degrees Tenon Adaptor for 3 1/2" O.D. Tenon
- **MA1013-BZ**= 4 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1014-BZ**= 2 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1015-BZ**= 2 @ 120 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1016-BZ**= 3 @ 90 degrees Tenon Adapter for 3 1/2" O.D. Tenon
- **MA1017-BZ**= Single Tenon Adapter for 2 3/8 " O.D. Tenon
- **MA1018-BZ**= 2 @ 180 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1019-BZ**= 3 @ 120 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1045-BZ**= 4 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **MA1048-BZ**=2 @ 90 degrees Tenon Adapter for 2 3/8" O.D.Tenon
- **MA1049-BZ**=3 @ 90 degrees Tenon Adapter for 2 3/8" O.D. Tenon
- **TR/VS**=Field Installed Vandal Shield[12]
- **OA/RA1013**=Photocontrol Shorting Cap
- **OA/RA1016**=NEMA Photocontrol - Multi-Tap
- **OA/RA1027**=NEMA Photocontrol 480V
- **OA/RA1201**=NEMA Photocontrol 347V

Notes: 1 8 Inch Arm and pole adapter included with fixture. Specify Less Arm "LA" option when mounting accessory is ordered separately. 2 150W and below in Pulse Start Metal Halide are medium base sockets. All other wattages are mogul base. 3 Requires reduced envelope lamp. 4 175W, 250W, and 400W MH available in non-U.S. markets only. 5 Products also available in non-US voltages and 50HZ for international markets. Consult your Cooper Representative for availabiltiy and ordering information. 5T only available in 400W MH. 6 88% efficient EISA Compliant MP fixtures not available in 347V or TT Voltages. 7 Must specify voltage. 8 Quartz options not available with SL optics. 9 Specify 120V, 208V, 240V, or 277V only. 10 House side shield not available on 5S, 5F, or SL optics. 11 Order separately/replace XX with color specification. 12 Not available with SLE or House Side Sheild.

STOCK SAMPLE NUMBER (Lamp Included)

SAMPLE NUMBER: MPTR2340

MP	TR	23	

Lamp Type
- **MP**=Pulse Start Metal Halide
- **HP**=High Pressure Sodium [2]

Series [1]
- **TR**=Tribute

Distribution
- **23**=Type II/III Formed

Lamp Wattage
- **15**=150W
- **25**=250W
- **32**=320W
- **40**=400W

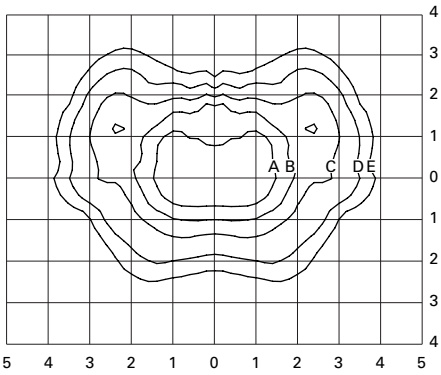
NOTES:

[1] Short logic fixtures are finished bronze include multi-tap ballast, lamp, arm and round pole adapter. Other options not available. Refer to standard ordering logic. [2] Available in 150, 250 and 400 Watt. Refer to In Stock Guide for availability.

VOLTAGE CHART	
DT=Dual-Tap	120/277 (wired 277V)
MT=Multi-Tap	120/208/240/277 (wired 277V)
TT=Triple-Tap	120/277/347 (wired 347V)
5T=5-Tap	120/208/240/277/480 (wired 480V)

LAMP TYPE	WATTAGE
Pulse Start Metal Halide	70, 100, 150, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	70, 100, 150, 250, 400W

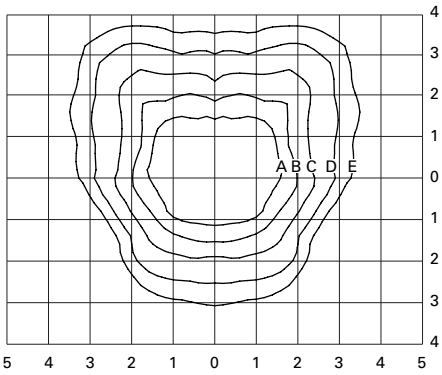
PHOTOMETRICS [Complete IES files available at www.cooperlighting.com]



MPTR-3S-320
320—Watt MP
30,000—Lumen Clear Lamp
Type III Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

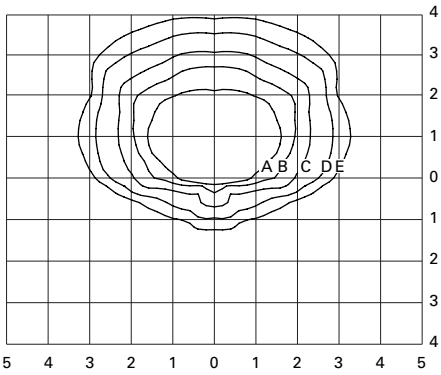
Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



MPTR-4S-400
400—Watt MP
40,000—Lumen Clear Lamp
Type IV Segmented

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06



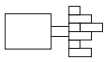
MPTR-SL-400
400—Watt MP
40,000—Lumen Clear Lamp
Spill Light Eliminator

Footcandle Table
Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	**2.00**	**1.00**	**0.50**	**0.20**	**0.10**
30'	1.38	0.69	0.34	0.13	0.06

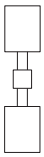
MOUNTING CONFIGURATIONS

Wall Mount

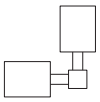


Arm Mount Single
EPA: 1.62

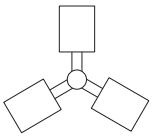
Arm Mount 2 @ 180
EPA: 3.24



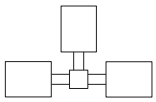
Arm Mount 2 @ 90
EPA: 3.24



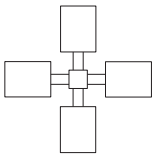
Arm Mount 3 @ 120
(Round Pole Only)
EPA: 4.43



Arm Mount 3 @ 90
EPA: 4.43



Arm Mount 4 @ 90
EPA: 5.03



COOPER LIGHTING - LUMARK®

DESCRIPTION

The Lumark Canopy Light combines lasting durability and excellent photometrics. CSA certified for wet locations. The Canopy Light mounts quickly to a variety of surfaces, making it ideal for covered walkways, convenience store/service station canopies and enclosed parking areas.

		Type
Catalog #	BSL-36-70-MP-277-BZ	B
Project	CHANNELL	
Comments		Date
Prepared by		06/12/2014

SPECIFICATION FEATURES

Construction
HOUSING: CL housing is constructed of heavy-gauge aluminum. CS housing is constructed of durable steel welded construction. GASKET: Fully gasketed door frame seals out contaminants. DOOR: Hinged door provides easy access for maintenance and relamping and door can be removed to simplify installation.

Electrical
BALLAST: High power factor ballast with class H insulation. CL construction is listed for 40°C ambient environments. CS construction is listed for 25°C ambient environments.

Optics
Optical system features an injection-molded prismatic lens with internal prisms and white highly reflective internal surface.

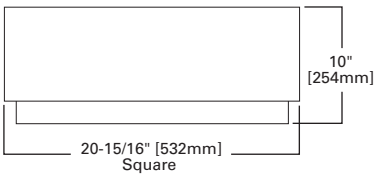
Finish
Weather- and abrasion-resistant white polyester powder coat finish.

CL/CS
CANOPY LIGHT

100 - 400W
High Pressure Sodium
Pulse Start Metal Halide
Metal Halide

CANOPY LUMINAIRE

DIMENSIONS



LAMP TYPE	WATTAGE
Pulse Start Metal Halide (MP)	100, 150, 200, 250, 320, 350, 400W
Metal Halide (MH)	175, 250, 400W
High Pressure Sodium (HP)	100, 150, 250, 400W

TECHNICAL DATA

UL Wet Location Listed
CSA Certified
EISA Compliant Ⓔ

ENERGY DATA

Reactor Ballast Input Watts
100W HPS HPF (118 Watts)
100W MP HPF (128 Watts)
150W HPS HPF (175 Watts)

High Reactor Ballast Input Watts
150W MP HPF (185 Watts)

CWI Ballast Input Watts
175W MH HPF (223 Watts)
250W HPS HPF (300 Watts)
250W MH HPF (300 Watts)
400W HPS HPF (465 Watts)
400W MH HPF (475 Watts)

CWA Ballast Input Watts
175W MH HPF (210 Watts)
200W HPS HPF (250 Watts)
200W MP HPF (227 Watts) Ⓔ
250W MP HPF (283 Watts) Ⓔ
320W MP HPF (365 Watts) Ⓔ
400W HPS HPF (465 Watts)
400W MH HPF (455 Watts)
400W MP HPF (452 Watt) Ⓔ

SHIPPING DATA

Approximate Net Weight:
44 lbs. (20 kgs.)

ORDERING INFORMATION

MPCS-400-480V-BZ

MP	CS	400	480V	

Lamp Type
- **MP**=Pulse Start Metal Halide[1]
- **MH**=Metal Halide[2]
- **HP**=High Pressure Sodium

Series
- **CL**=Canopy Light (Aluminum Housing)[3]
- **CS**=Canopy Light (Steel Housing)[4]

Lamp Wattage [5]

MP
- **100**=100W
- **150**=150W
- **200**=200W
- **250**=250W
- **320**: 320W
- **350**: 350W
- **400**: 400W

MH
- **175**: 175W[2]
- **250**: 250W[2]
- **400**: 400W[2]

HP
- **100**: 100W
- **150**: 150W
- **250**: 250W
- **400**: 400W

Voltage [6]
- **120V**=120V
- **208V**=208V
- **240V**=240V
- **277V**=277V
- **347V**=347V[7]
- **480V**=480V
- **MT**: Multi-Tap
- **TT**: Triple-Tap, wired 347V[7]

Options
- **F1**=Single Fuse (120, 277 or 347V only)
- **F2**=Double Fuse (208, 240 or 480V only)
- **Q**=Quartz Restrike (Hot Strike Only)
- **EM**: Quartz Restrike with "Delay Relay" (Quartz lamp strikes at both hot and cold starts)
- **C73**: Flat Prismatic Tempered Glass Lens
- **LL**: Lamp Included[8]
- **CEC**: California Title 20 Compliant Ballast (Applies to 200-320W and 400W MP only)
- **POM**: Position Oriented Socket

Notes:
1. 150, 200, 250, 320, 350, 400 and 450W only.
2. 175W, 250W, and 400W MH available in non-U.S. markets only.
3. 40°C Ambient environment, except 400W HPS is 25°C ambient.
4. 25°C Ambient environment.
5. All lamps are mogul-base except 150W Metal Halide and below are medium-base. Lamp not included.
6. Products also available in non-US voltages and 50HZ for international markets.
7. 88% efficient EISA Compliant fixtures not available in 347V or TT Voltages.
8. Lamp is shipped separate from luminaire. Lamp is Cooper designated product based on luminaire requirements. Specified lamps must be ordered as a separate line item.

STOCK SAMPLE NUMBER

SAMPLE NUMBER: MPCL-400H-MT-LL

MP	CL	400	MT	LL
Lamp Type MP	**Series** CL	**Lamp Wattage** 150, 250, 320[1], 400[1]	**Voltage** MT	**Options** LL (Includes lamp)

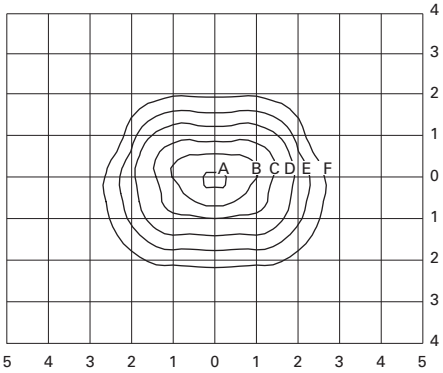
NOTES:

Standard Multi-tap. Refer to In-Stock Guide for availability. Options not available with stock products.
Refer to Standard order information and options.
1 Available without lamp MPCL-320-MT or MPCL-400-MT.

VOLTAGE CHART

MT=Multi-Tap	120/208/240/277 (wired 277V)
TT=Triple-Tap	120/277/347 (wired 347V)

PHOTOMETRICS



MPCL-320
320-Watt MP
30,000-Lumen Clear Lamp

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines					
	A	**B**	**C**	**D**	**E**	**F**
15'	**20.00**	**10.00**	**5.00**	**2.00**	**1.00**	**0.50**
20'	11.25	5.63	2.81	1.13	0.56	0.28