



# Appendix 2.3-7

## Grading and Drainage Plans

### LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
SPOT ELEVATION	+121.50	GROUND LIGHT	☐
TOP AND BOTTOM CURB ELEVATION	T=140.00 B=139.50	UTILITY POLE/GUY POLE	☐
MAJOR CONTOUR	240	TRAFFIC SIGNAL POLE	☐
MINOR CONTOUR	241	TRAFFIC CONTROL BOX	☐
BORING / TEST HOLE LOCATION	◉	LIGHT POLE W/FIXTURE(S)	◉
RIDGE LINE	—	FLOW ARROW	→
CATCH BASIN	◻	GAS LINE	—G—G—
UTILITY MANHOLE	⊙	SANITARY LINE	—S—S—
YARD INLET	⊙	DRAINAGE LINE	—D—D—
ROOF LEADER	⊙	ELECTRIC LINE	—E—E—
DRYWELL W/GRATE	⊙	ROOF LEADER LINE	—R—R—
DRYWELL W/ SOLID COVER	⊙	WATER LINE	—W—W—
HYDRANT	⊙	SANITARY HOUSE CONNECTION	—HC—HC—
UTILITY METER/VALVE	⊙	SANITARY FORCEMAIN LINE	—FM—FM—
CLEAN OUT	⊙	TELECOMMUNICATION LINE	—T—T—
		HOT WATER LINE	—HW—HW—
		CHILLED WATER LINE	—CWL—CWL—

- ### GRADING AND DRAINAGE NOTES:
1. FOR NEW CONSTRUCTION THAT MEETS EXISTING CONDITIONS, ABUTTING SURFACES SHALL BE FLUSH AND ALIGNED.
  2. THE CONTRACTOR SHALL CONFIRM INVERT ELEVATIONS OF ALL ROOF DRAINS AND SANITARY HOUSE CONNECTIONS PRIOR TO COMMENCING SITE DRAINAGE AND SANITARY CONSTRUCTION.
  3. ADJUST ALL EXISTING CASTINGS AND VALVE COVERS TO MEET PROPOSED GRADE.
  4. CONSTRUCTION DEBRIS AND EXCESS SOIL SHALL BE REMOVED AND LEGALLY DISPOSED OFF SITE.
  5. UNSUITABLE SOILS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IMMEDIATELY IN WRITING BEFORE REMOVAL OR DISTURBANCE.

### STORMWATER MANAGEMENT NOTES:

THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED TO CONFORM TO THE CRITERIA OF THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS (NCDPW) AND THE STORMWATER PRECEPTS INCORPORATED INTO THE SEGRA FINDINGS STATEMENT ENTITLED "APPLICATION FOR THE BUILDING ZONE ORDINANCE AMENDMENTS, REZONING OF CERTAIN PARCELS AND APPROVAL OF A COMPREHENSIVE MASTER PLAN FOR THE DEVELOPMENT OF THE LIGHTHOUSE AT LONG ISLAND" (DATED JUNE 9, 2011), AS DETAILED BELOW:

**NCDPW CRITERIA**  
 THE SUBJECT PROPERTY IS AN 85.27-ACRE PARCEL LOCATED IN A 269-ACRE OVERALL WATERSHED, THE SITE, AS WELL AS THE REMAINDER OF THE WATERSHED, ARE TRIBUTARY TO AN EXISTING NASSAU COUNTY STORMWATER INFILTRATION BASIN (#537) LOCATED JUST SOUTH OF HEMPSTEAD TURNPIKE (NYS ROUTE 24), ON THE WEST SIDE OF GLENN CURTISS BOULEVARD. BASED ON INFORMATION OBTAINED FROM NCDPW, BASIN NO. 537 WAS DESIGNED TO STORE THE RUNOFF FROM A 5-INCH RAIN EVENT. IN ADDITION, THE COUNTY BASIN IS EQUIPPED WITH AN EMERGENCY OVERFLOW INTO MEADOW BROOK.

ALTHOUGH THE SUBJECT PROPERTY IS PERMITTED TO DRAIN INTO NASSAU COUNTY STORMWATER BASIN NO. 537 IN ITS CURRENT CONDITION, THE APPLICANT IS COMMITTED TO THE GOAL OF RUNOFF REDUCTION AND HAS THEREFORE REDUCED THE AMOUNT OF IMPERVIOUS SURFACES AND REPLACED THEM WITH MORE PERVIOUS LAND USES IN ITS REDEVELOPMENT PLAN (SEE RUNOFF REDUCTION CALCULATION TABLES, THIS SHEET).

THE TWO TABLES PRESENT CALCULATIONS OF RUNOFF GENERATED FROM A 5-INCH RAIN EVENT ON THE SUBJECT PROPERTY BASED ON THE EXISTING LAND USES AT THE SITE, AS WELL AS UNDER THE PROPOSED ACTION CONDITION. THE NET RESULT IS THAT THE PROPOSED ACTION SITE WILL CONTRIBUTE APPROXIMATELY 136,908 CF CUBIC FEET LESS RUNOFF TO NC STORMWATER BASIN NO. 537 (5-INCH STORM) IN THE PROPOSED ACTION CONDITION, THEREBY IMPROVING AN ALREADY PERMITTED CONDITION. IN ADDITION, LOCAL INFILTRATION HAS BEEN INCREASED WITH THE INTRODUCTION OF DRYWELLS AND LEACHING GALLEYS, CONTRIBUTING A FURTHER 195,821 CF OF STORAGE CAPACITY. THE RUNOFF REDUCTION EQUATES TO RUNOFF FROM A 1.13" STORM EVENT AND A REDUCTION IN THE SITE-WIDE WEIGHTED RUNOFF COEFFICIENT FROM C = 0.9321 TO C = 0.8446.

### RUNOFF REDUCTION CALCULATION:

#### Stormwater Generation Under Existing Conditions

Land Use	Area (sf)	Runoff Coefficient	5-Inch Runoff Volume (CF)
Building Coverage	230,767	1.0	96,153
Parking Structure	0	1.0	0
Impervious Area	3,162,662	1.0	1,317,776
Landscaped Area	364,698	0.3	45,587
<b>Totals</b>	<b>3,758,127</b>	<b>0.9321</b>	<b>1,459,516</b>

#### Stormwater Generation Under the Proposed Action

Land Use	Area (sf)	Runoff Coefficient	5-Inch Runoff Volume (CF)
Building Coverage	1,122,067	1.0	467,528
Parking Structure	267,193	1.0	111,330
Rooftop Open Space	109,125	0.5	22,734
Impervious Area	1,577,850	1.0	657,438
Landscaped Area	681,892	0.3	85,237
<b>Totals</b>	<b>3,758,127</b>	<b>0.8585</b>	<b>1,344,267</b>

### TOWN OF HEMPSTEAD SEGRA-RELATED STORMWATER PRECEPTS

- A REDUCTION IN IMPERVIOUS SURFACES - DEMONSTRATED IN THE TABLES ON THIS SHEET.
- CONTINUED CONNECTION TO (AND USE OF) NASSAU COUNTY RECHARGE BASIN NO. 537 - ACHIEVED.
- EXCLUSION OF DIRECT DISCHARGES TO SURFACE WATERS - ACHIEVED.
- PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IN ACCORDANCE WITH THE PRESIDING REGULATIONS OF THE NYSDEC AND THE TOWN OF HEMPSTEAD - TO BE PREPARED IN CONJUNCTION WITH FINAL SITE PLAN.
- MEASURES AND PRACTICES TO QUANTIFIABLY DECREASE STORMWATER RUNOFF - APPLICANT HAS COMMITTED TO STRATEGIC STORMWATER HARVESTING AND REUSE FOR IRRIGATION PURPOSES AS NOTED ON PLAN (LOCATION TO BE DETERMINED). IN ADDITION, THE APPLICANT WILL BE CONSTRUCTING ROOFTOP GARDENS IN STRATEGIC LOCATIONS. THE ROOFTOP GARDENS WILL PROVIDE INCREASED POTENTIAL FOR EVAPORATION AND TRANSPIRATION, THEREBY DECREASING THE AMOUNT OF SITE GENERATED RUNOFF.
- REDUCE STORMWATER RUNOFF BY INCREASING LOCAL INFILTRATION - APPLICANT HAS COMMITTED TO PROMOTE LOCAL INFILTRATION AND FURTHER REDUCE BURDEN ON NASSAU COUNTY STORMWATER BASIN NO. 537. THE STORMWATER MANAGEMENT PLAN INDICATES STRATEGIC PLACEMENT OF DRYWELLS ON SUBJECT PROPERTY TO ACHIEVE THAT GOAL. LOCAL INFILTRATION WILL ALSO BE ENHANCED BY THE ELIMINATION OF 317,154 SF OF IMPERVIOUS LAND COVER. APPLICANT WILL CONTINUE TO INVESTIGATE ALTERNATIVE METHODS TO PROMOTE INCREASED LOCAL INFILTRATION THROUGHOUT THE SITE PLAN APPROVAL PROCESS.
- THE CONCEPTUAL STORMWATER MANAGEMENT PLAN SHOWS 120" x 12" Ø DRYWELLS WITH A CUMULATIVE EFFECTIVE DEPTH OF 1,865 LF, PLUS 48" x 5" EFFECTIVE DEPTH DRAINAGE LEACHING GALLEYS, WHICH AMOUNTS TO 195,821 CF OF STORAGE CAPACITY. THIS EQUATES TO A RUNOFF REDUCTION OF 0.67" OF A 5" STORM EVENT.

H 2 M architects + engineers

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 Melville, NY 11747  
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MARK	DATE	DESCRIPTION

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**R. JOEL RICHARDSON, P.E.**  
 REGISTERED PROFESSIONAL ENGINEER  
 LICENSE NO. 099970  
 EXP. DATE 12/31/2024

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DESIGNED BY: JMT    DRAWN BY: JMT/MRO    CHECKED BY: BJM    REVIEWED BY: RJR

PROJECT NO.: LVSC 2301    DATE: 10/05/2024    SCALE: AS SHOWN

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CLIENT:

## Las Vegas Sands Corp.

Sands New York

**1255 Hempstead Turnpike,  
 Uniondale, NY 11553**  
**NCTM: Sec. 44, Block F, Lots  
 351, 401, 402, 411, 412, & 415**

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CONTRACT:

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STATUS:

### REGULATORY REVIEW

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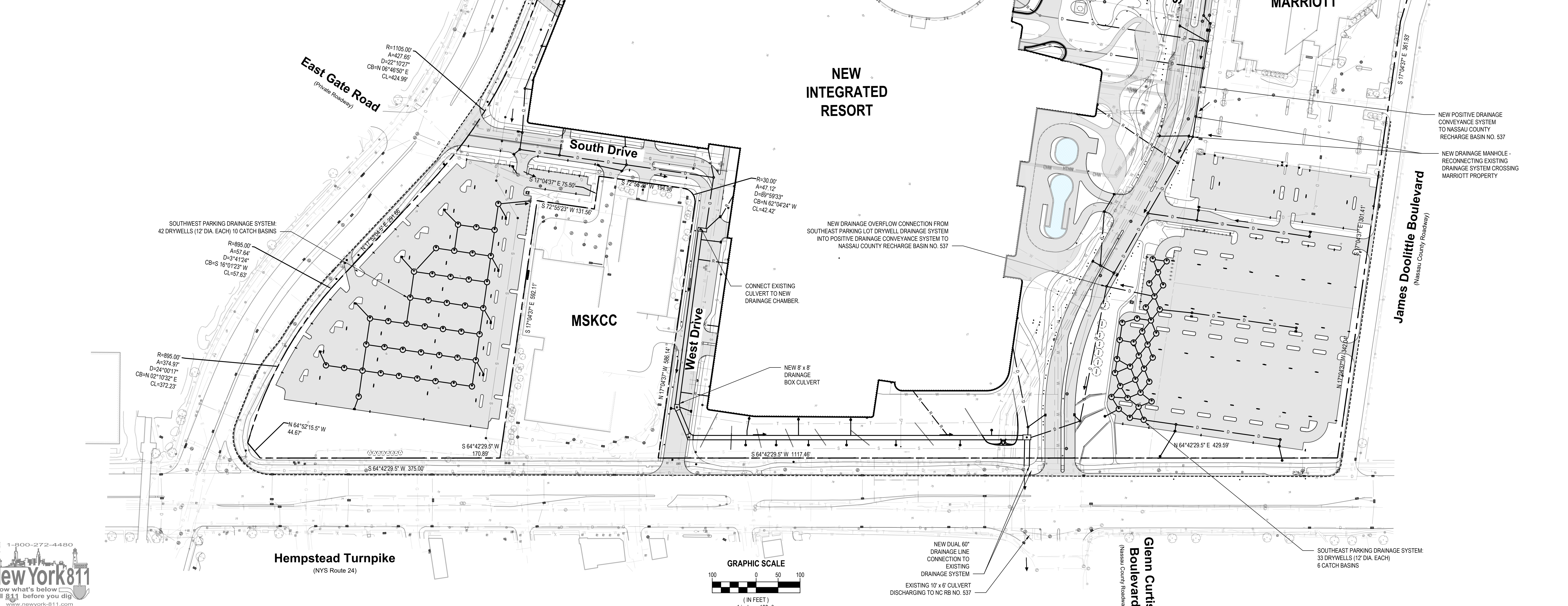
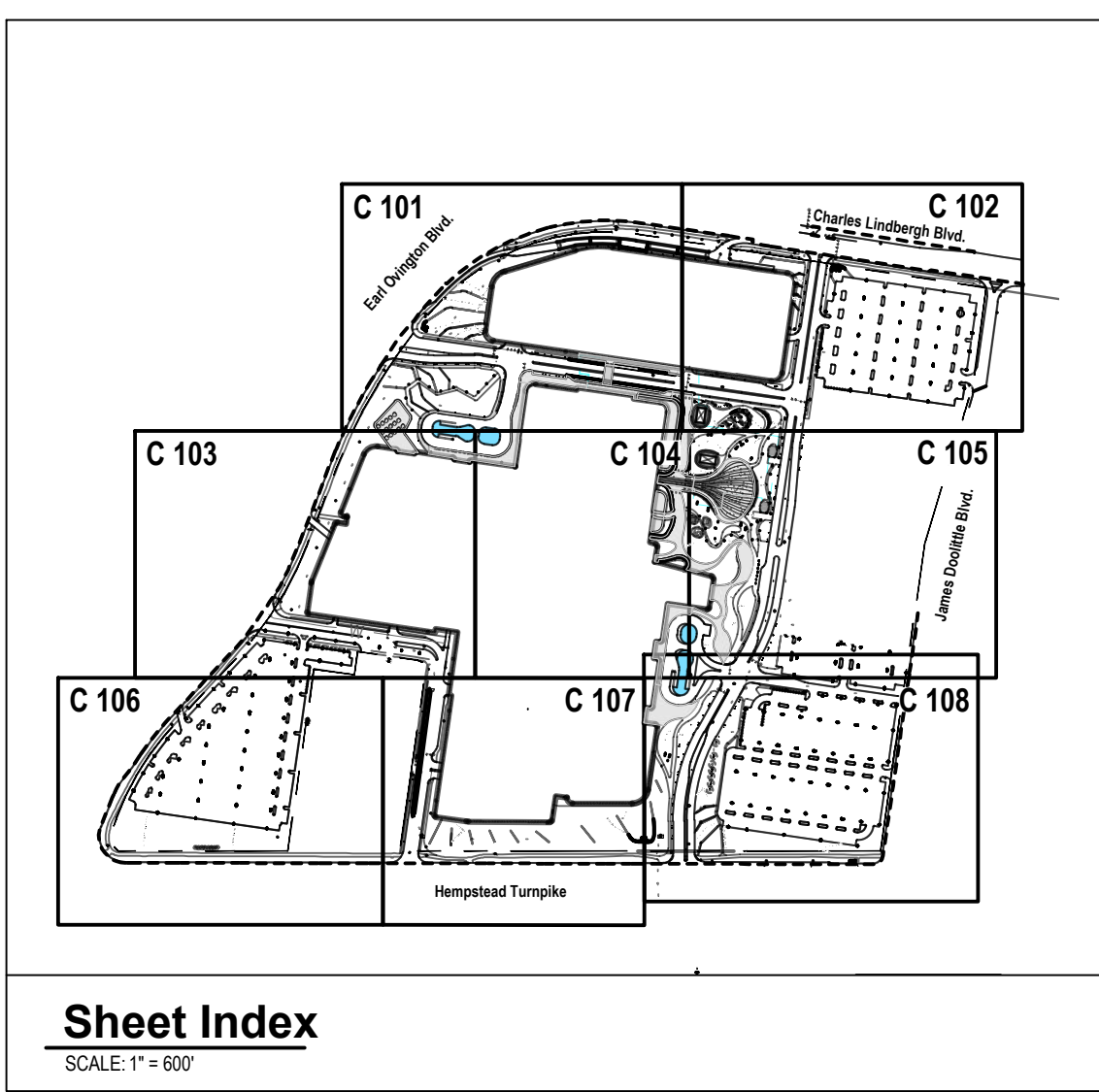
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### OVERALL DRAINAGE SITE PLAN

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DRAWING NO.:

## C 100.00



LVSC: Las Vegas Sands | LVSC2021 | Nassau-HA022-BNA-CDD-CON-downscale | CDRWG AND DRAINAGE PLAN | Date: 10/05/2024 | 5:50pm | Pinned on Nov. 26, 2024 | 1:56pm | By: jharris

CONSULTANTS:

MARK	DATE	DESCRIPTION

MARK	DATE	DESCRIPTION



**R. JOEL RICHARDSON, P.E.**  
Professional Engineer License No. 099970

DESIGNED BY	DRAWN BY	CHECKED BY	REVIEWED BY
JMT	JMT/MRO	BJM	RJR

PROJECT NO. LVSC 2301      DATE 10/05/2024      SCALE AS SHOWN

CLIENT: **Las Vegas Sands Corp.**

Sands New York

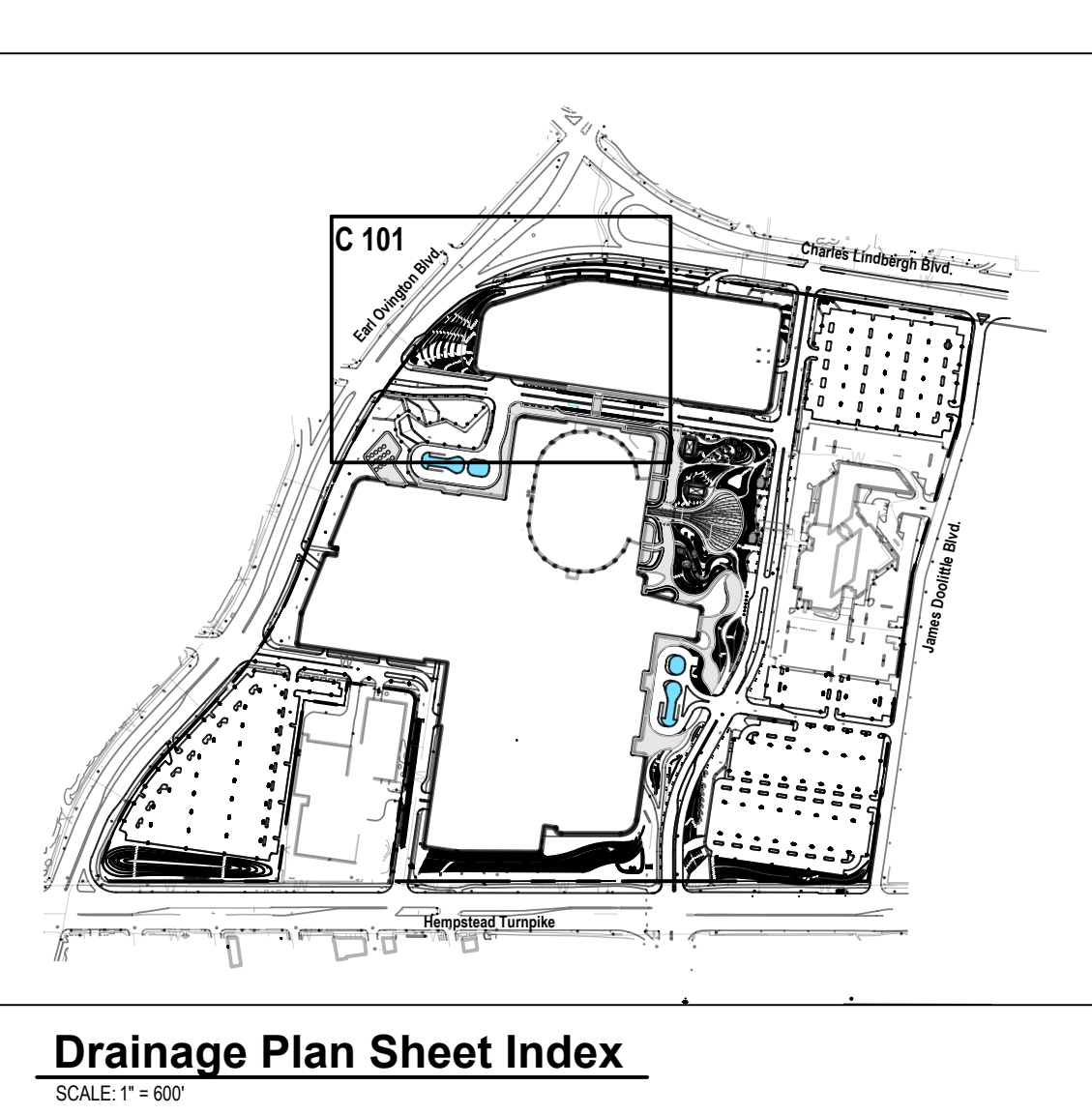
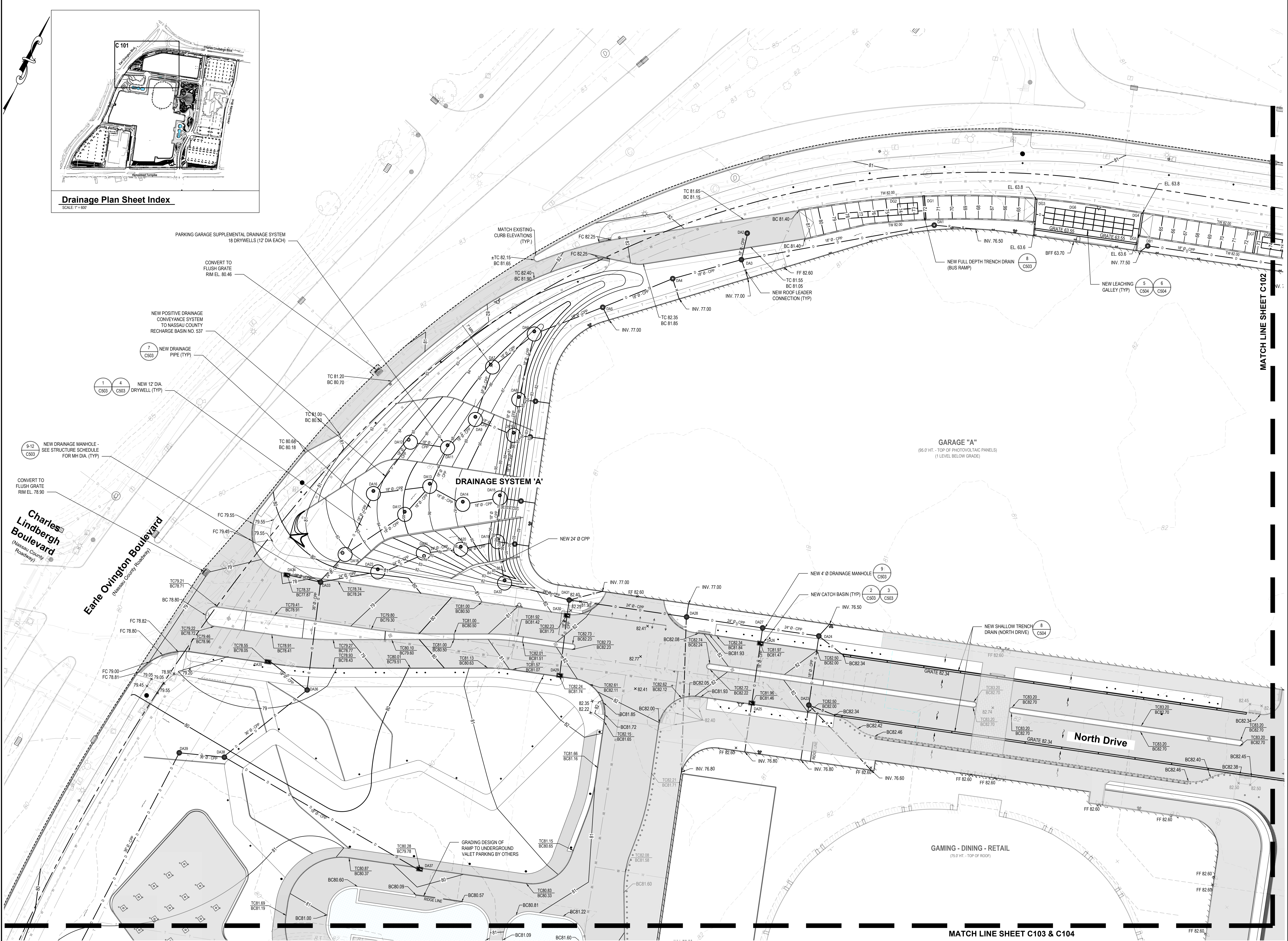


1255 Hempstead Turnpike,  
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NCTM: Sec. 44, Block F, Lots  
351, 401, 402, 411, 412, & 415

CONTRACT: **REGULATORY REVIEW**

SHEET TITLE: **GRADING AND DRAINAGE PLAN - NORTHWEST**

DRAWING NO.: **C 101.00**



**Charles Lindbergh Boulevard**  
(Nassau County Roadway)

**Earle Ovington Boulevard**  
(Nassau County Roadway)

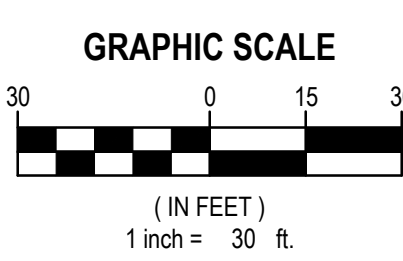
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**GARAGE "A"**  
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(1 LEVEL BELOW GRADE)

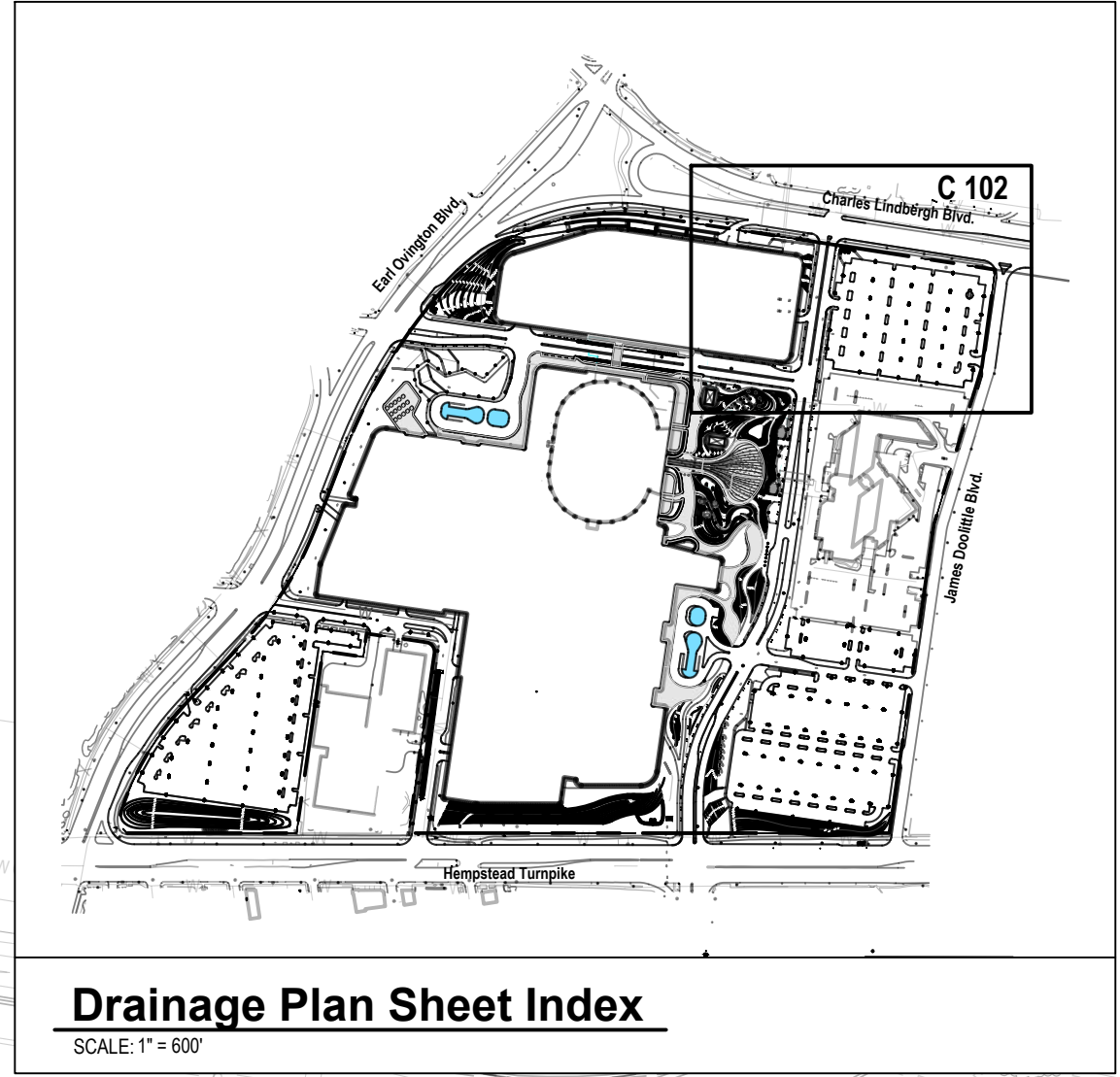
**GAMING - DINING - RETAIL**  
(75.0' HT. - TOP OF ROOF)

**North Drive**

NOTE: SEE PAGE C100.00 FOR NOTES AND LEGEND

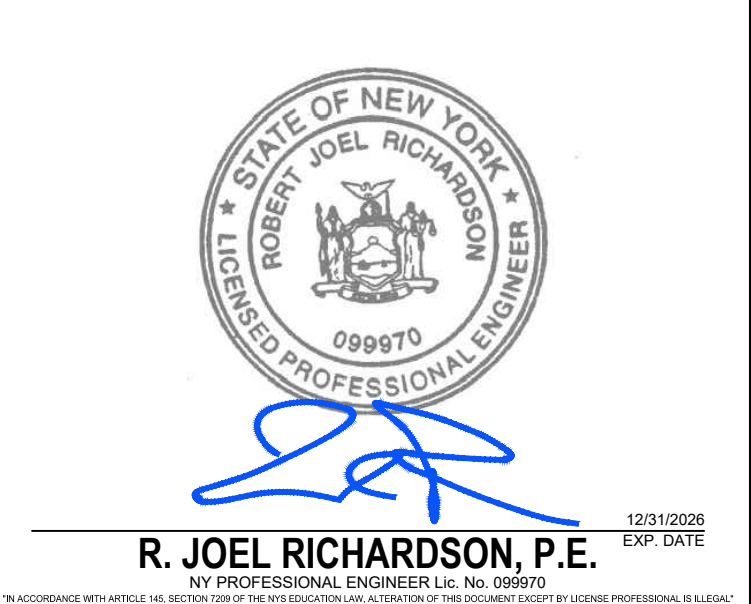


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CONSULTANTS:

MARK	DATE	DESCRIPTION



DESIGNED BY: JMT	DRAWN BY: JMT/MRO	CHECKED BY: SJM	REVIEWED BY: RJR
PROJECT NO: LVSC 2301	DATE: 10/05/2024	SCALE: AS SHOWN	

CLIENT: Las Vegas Sands Corp.

Sands New York

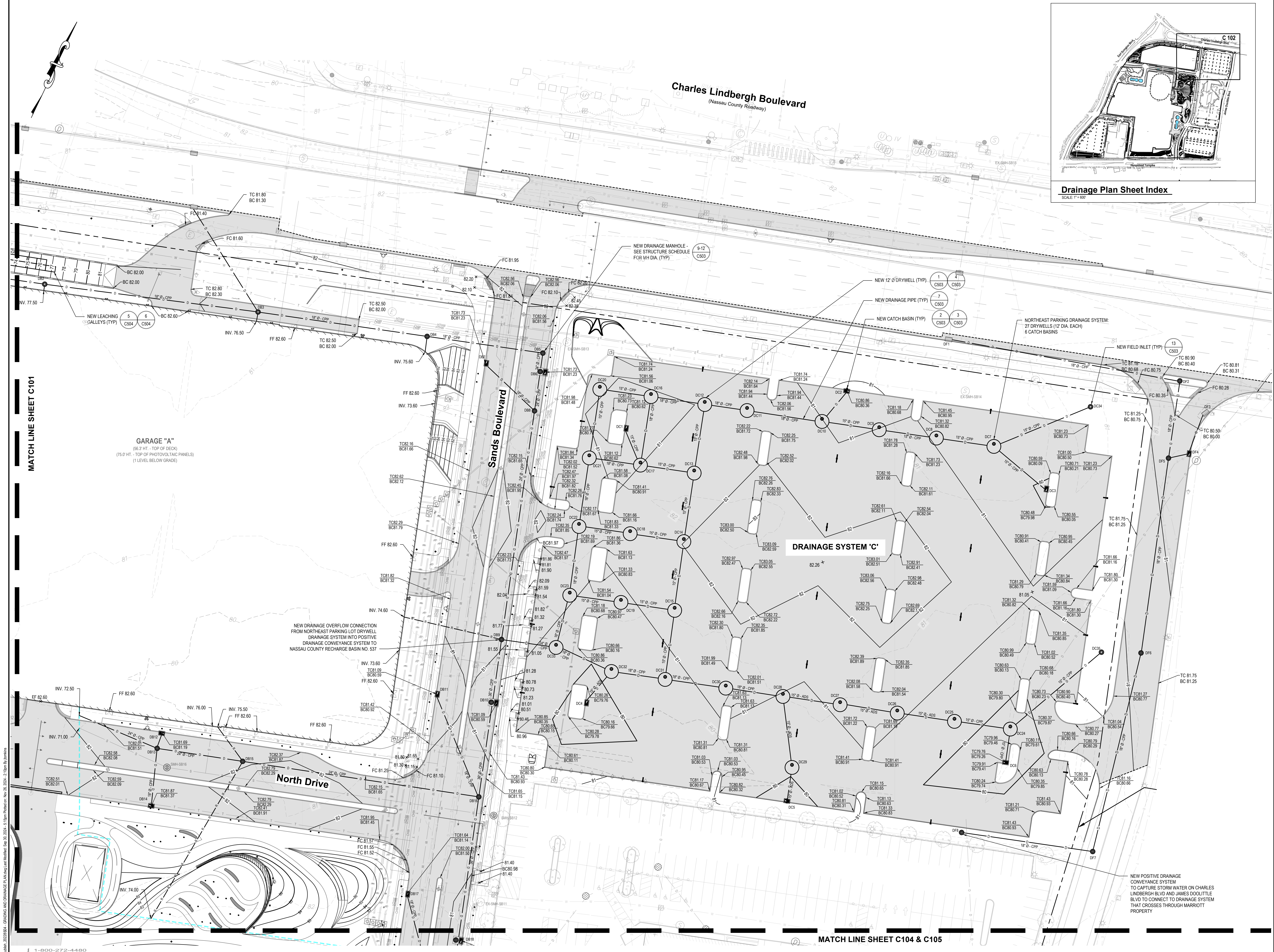


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STATUS: REGULATORY REVIEW  
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DRAWING NO: C 102.00

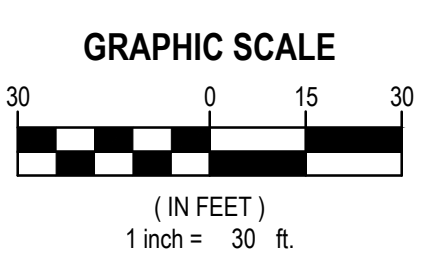


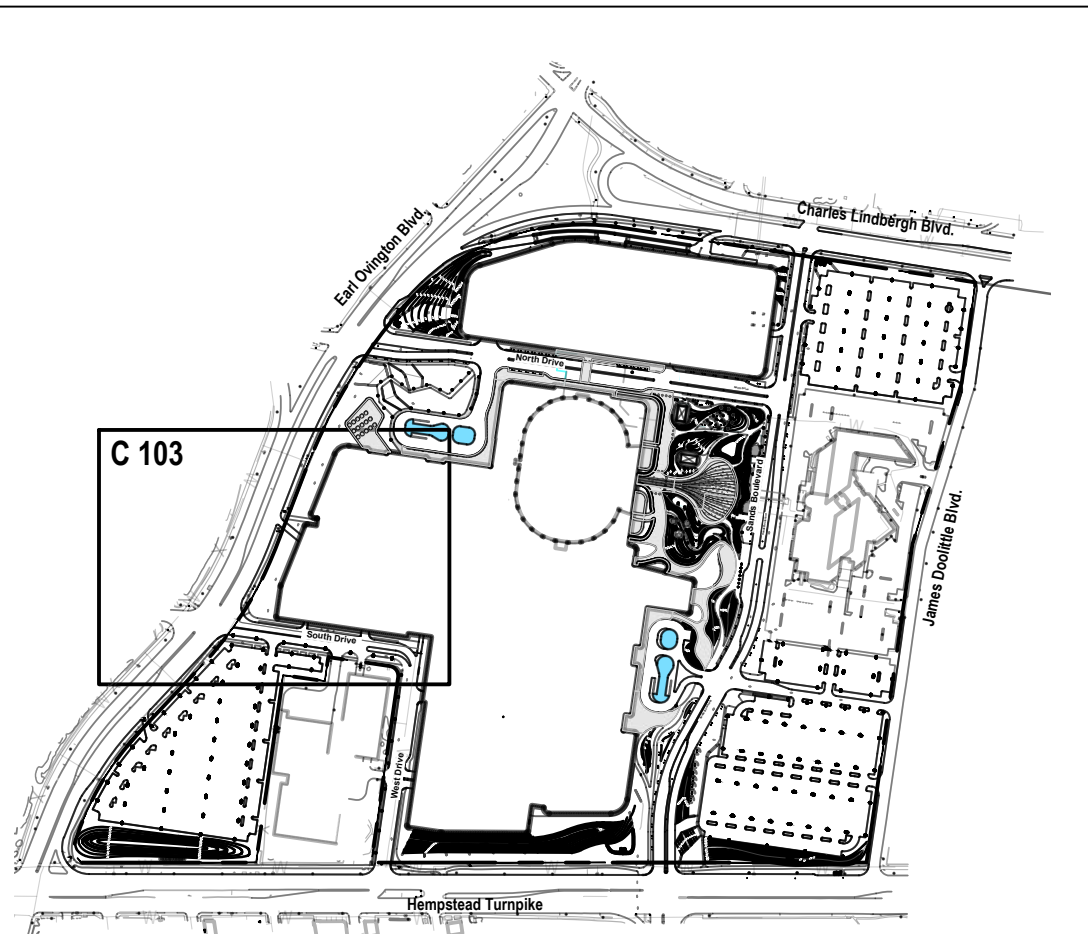
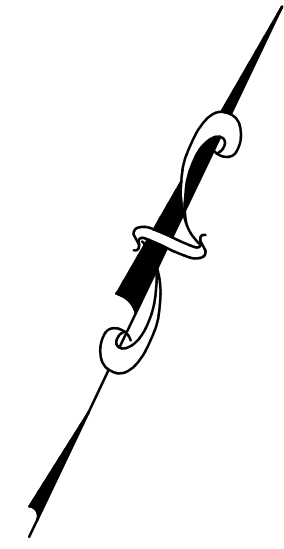
MATCH LINE SHEET C-101

MATCH LINE SHEET C104 & C105



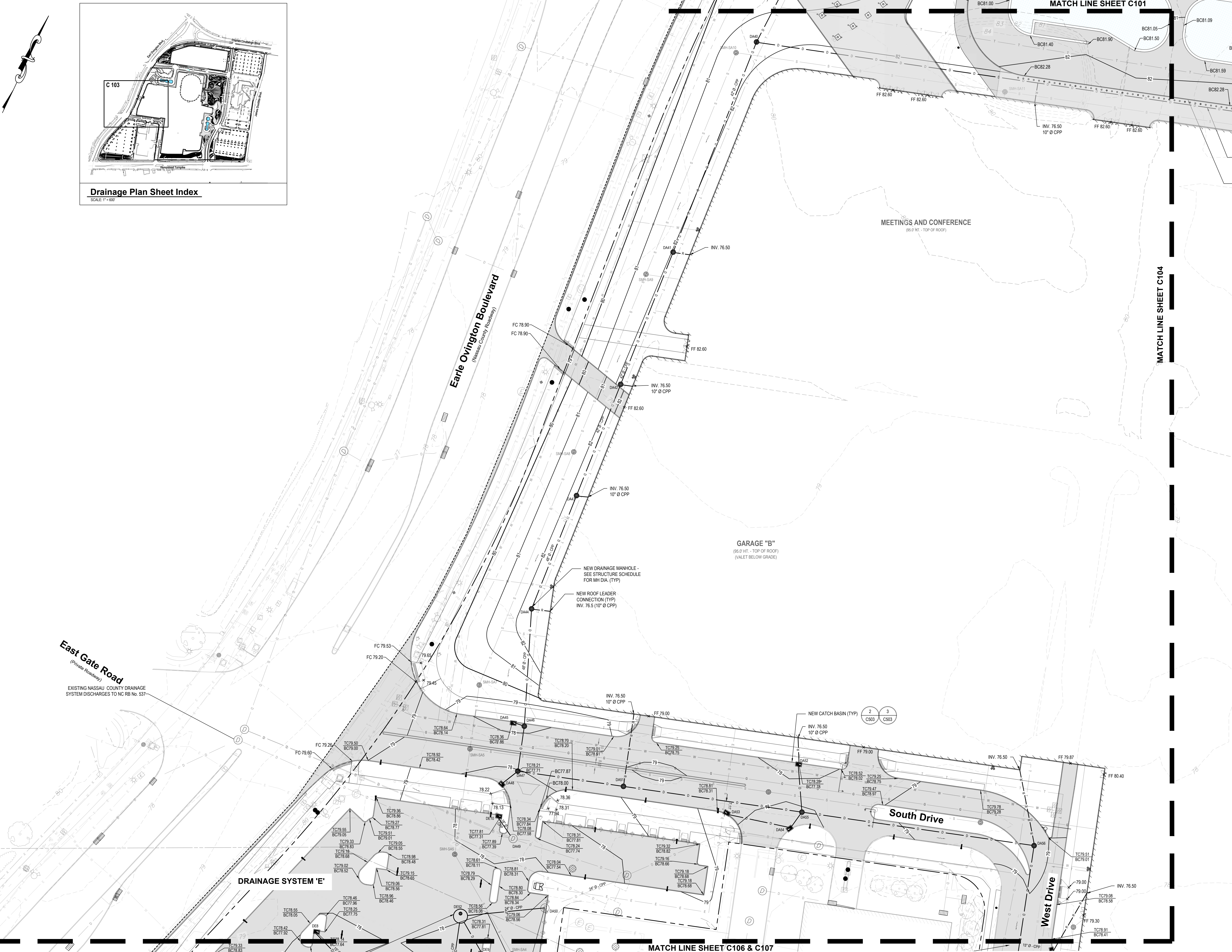
NOTE: SEE PAGE C100 FOR NOTES AND LEGEND





**Drainage Plan Sheet Index**

SCALE: 1" = 60'



**East Gate Road**  
*(Private Roadway)*

**Earle Ovington Boulevard**  
*(Nassau County Roadway)*

MEETINGS AND CONFERENCE  
*(65.0' HT. - TOP OF ROOF)*

GARAGE "B"  
*(65.0' HT. - TOP OF ROOF)  
(VALET BELOW GRADE)*

South Drive

West Drive

DRAINAGE SYSTEM 'E'

MATCH LINE SHEET C106 & C107

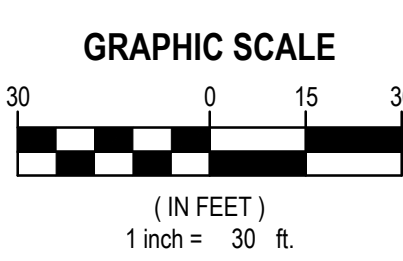
MATCH LINE SHEET C104

MATCH LINE SHEET C101

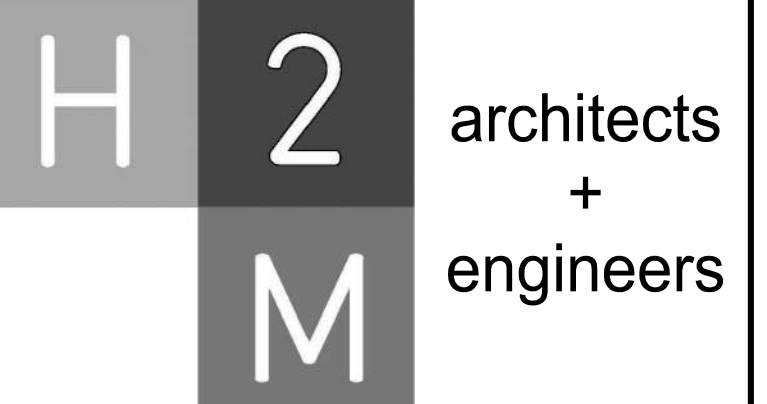


NEW 12" DIA. DRYWELL (TYP)

NEW DRAINAGE OVERFLOW CONNECTION FROM SOUTHWEST PARKING LOT DRYWELL DRAINAGE SYSTEM INTO POSITIVE DRAINAGE CONVEYANCE SYSTEM TO NASSAU COUNTY RECHARGE BASIN NO. 537



**NOTE: SEE PAGE C100 FOR NOTES AND LEGEND**



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MARK	DATE	DESCRIPTION



**R. JOEL RICHARDSON, P.E.**  
*(Professional Engineer License No. 099970)*

DESIGNED BY	DRAWN BY	CHECKED BY	REVIEWED BY
JMT	JMT/MRO	SJM	RJR

PROJECT NO.	DATE	SCALE
LVSC 2301	10/05/2024	AS SHOWN

**Las Vegas Sands Corp.**

Sands New York

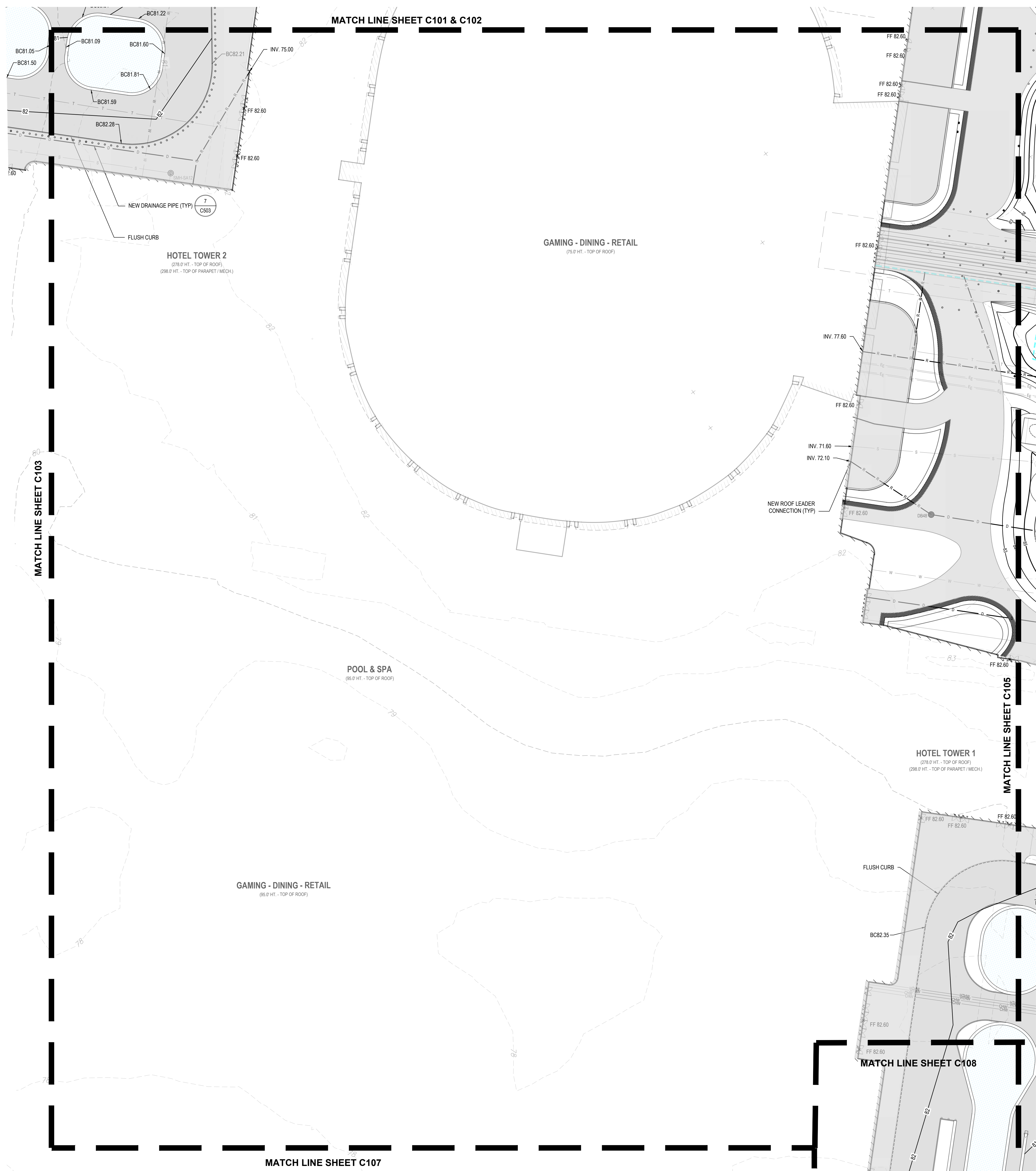
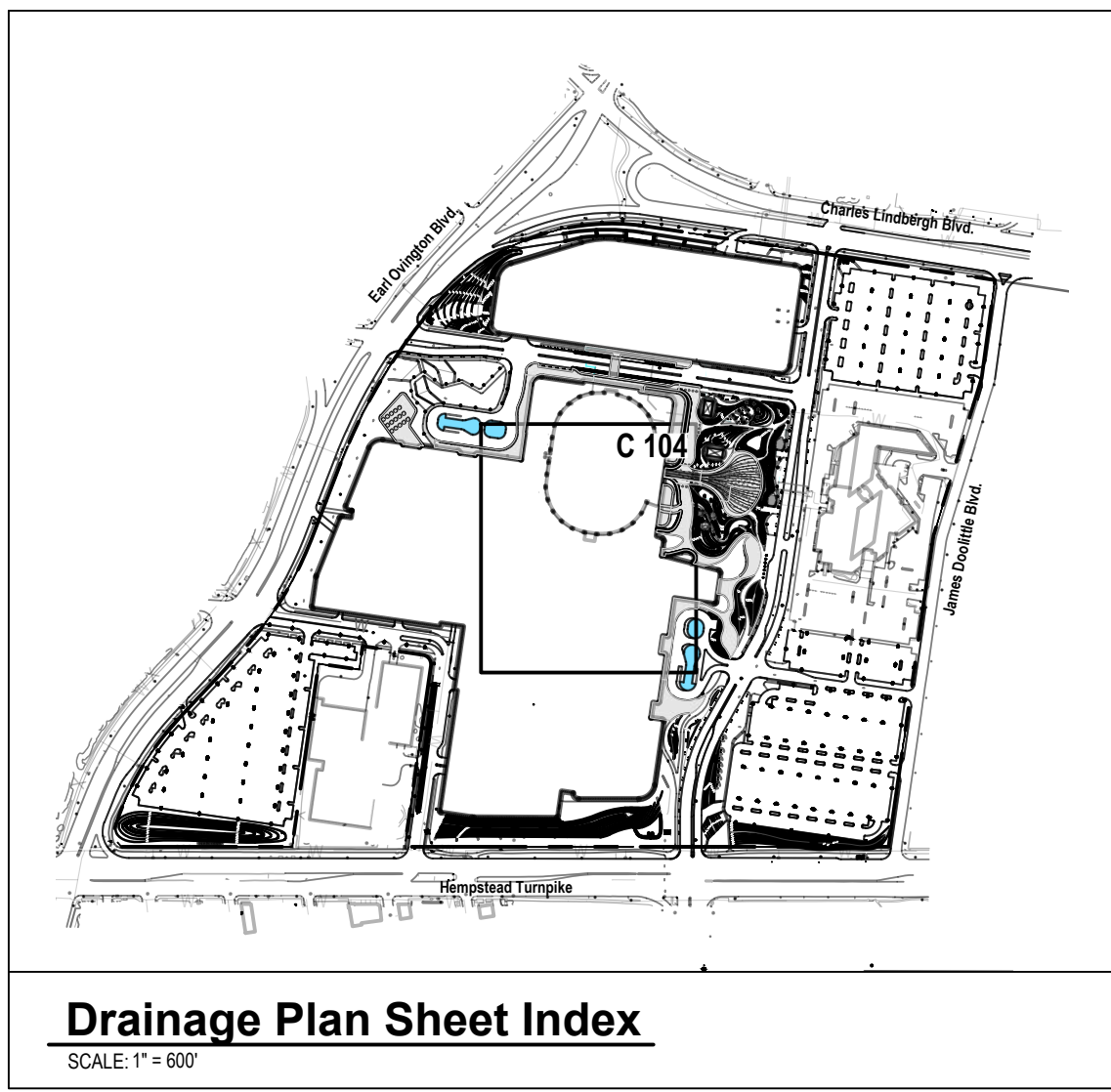
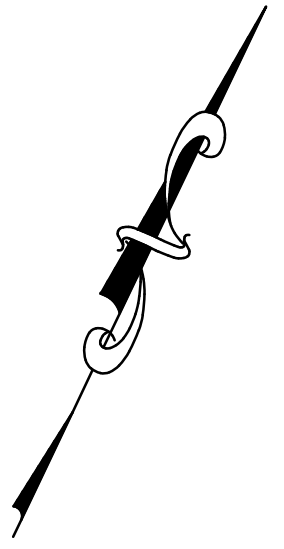


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**REGULATORY REVIEW**

**GRADING AND DRAINAGE PLAN - WEST**

**C 103.00**

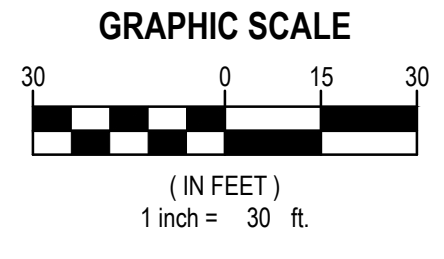


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**NOTE: SEE PAGE C100 FOR NOTES AND LEGEND**

MATCH LINE SHEET C107



**H 2 architects + engineers**  
**M**

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CONSULTANTS:

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DESIGNED BY: JMT	DRAWN BY: JMT/MRO	CHECKED BY: SJM	REVIEWED BY: RJR
PROJECT No: LVSC 2301	DATE: 10/05/2024	SCALE: AS SHOWN	

CLIENT: **Las Vegas Sands Corp.**

Sands New York



1255 Hempstead Turnpike,  
Uniondale, NY 11553  
NCTM: Sec. 44, Block F, Lots  
351, 401, 402, 411, 412, & 415

CONTRACT:  

STATUS: **REGULATORY REVIEW**

SHEET TITLE: **GRADING AND DRAINAGE PLAN - MID**

DRAWING No: **C 104.00**




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CONSULTANTS:

MARK	DATE	DESCRIPTION

MARK	DATE	DESCRIPTION



**R. JOEL RICHARDSON, P.E.**  
REGISTERED PROFESSIONAL ENGINEER  
EXPIRES: 09/30/2026

DESIGNED BY: JMT    DRAWN BY: JMT/MRO    CHECKED BY: SJM    REVIEWED BY: RJR  
PROJECT NO: LVSC 2301    DATE: 10/05/2024    SCALE: AS SHOWN

CLIENT  
**Las Vegas Sands Corp.**

Sands New York

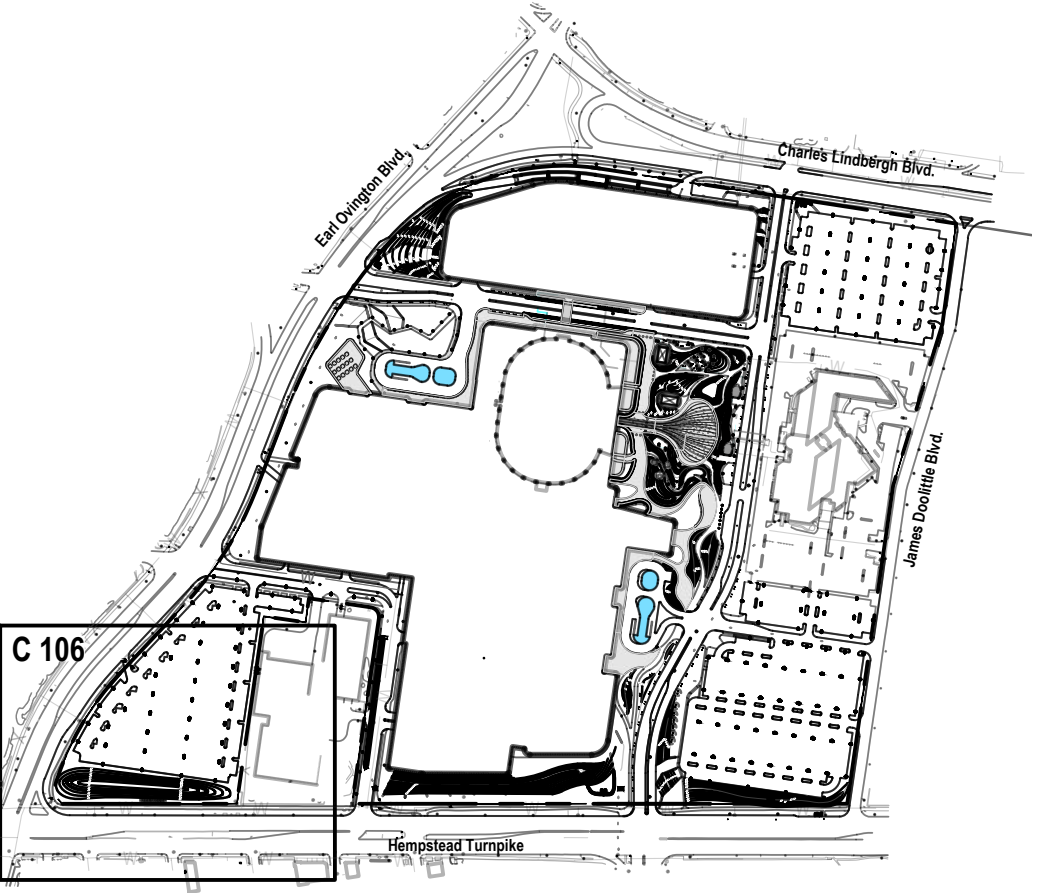


1255 Hempstead Turnpike,  
Uniondale, NY 11553  
NCTM: Sec. 44, Block F, Lots  
351, 401, 402, 411, 412, & 415

STATUS  
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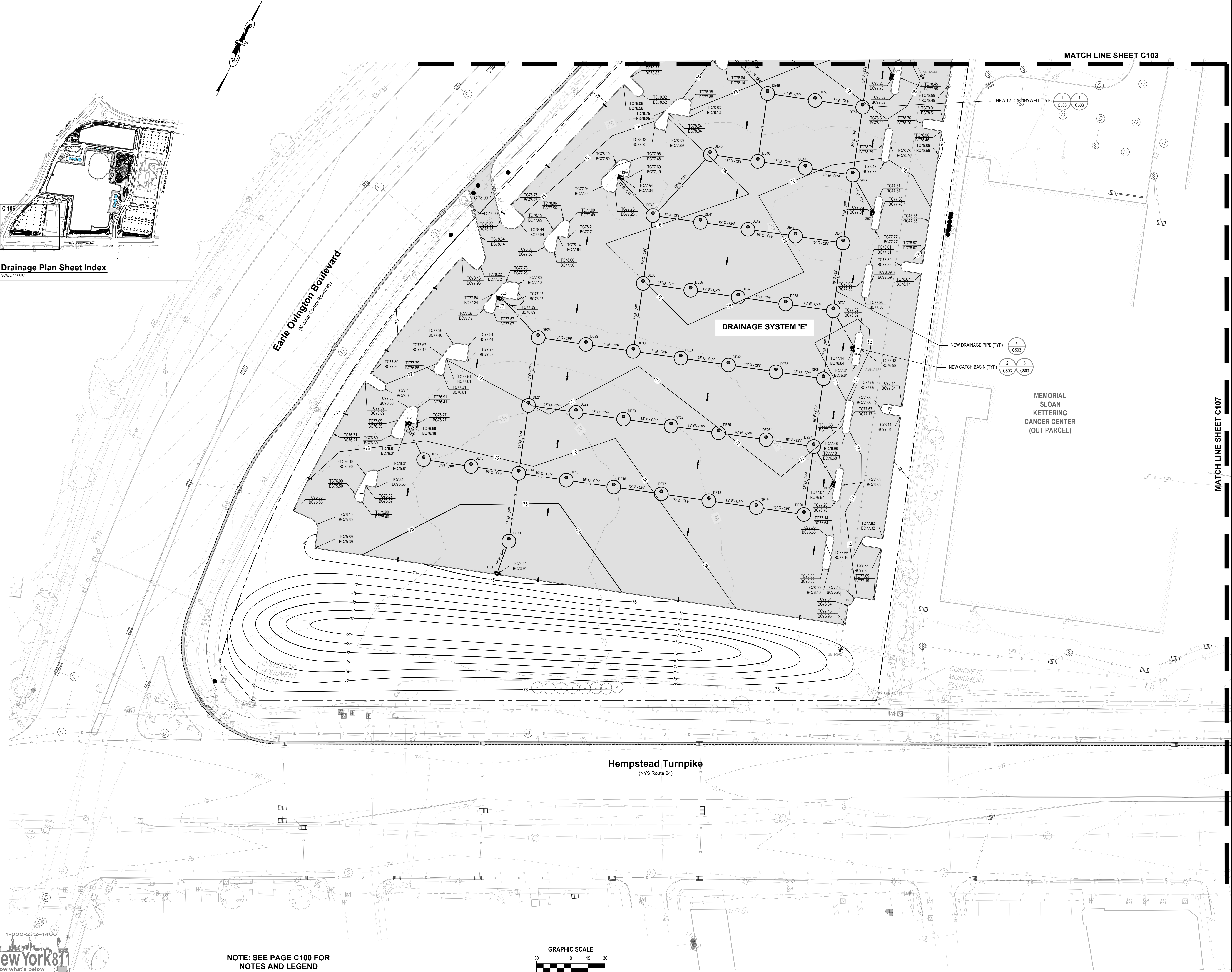
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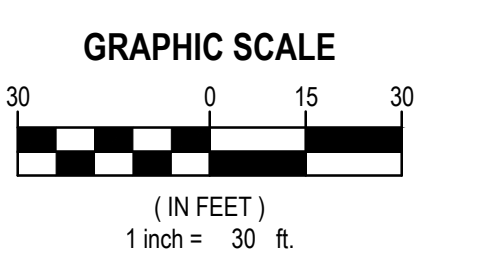


**C 106**

**Drainage Plan Sheet Index**  
SCALE: 1" = 50'



NOTE: SEE PAGE C100 FOR NOTES AND LEGEND



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CONSULTANTS:

MARK	DATE	DESCRIPTION



**R. JOEL RICHARDSON, P.E.**  
NY PROFESSIONAL ENGINEER Lic. No. 099970

DESIGNED BY	CHKD BY	EXPIRE DATE
JMT	RJM	
DRAWN BY	DATE	SCALE
JMT/MRO	10/05/2024	AS SHOWN

CLIENT: **Las Vegas Sands Corp.**

Sands New York



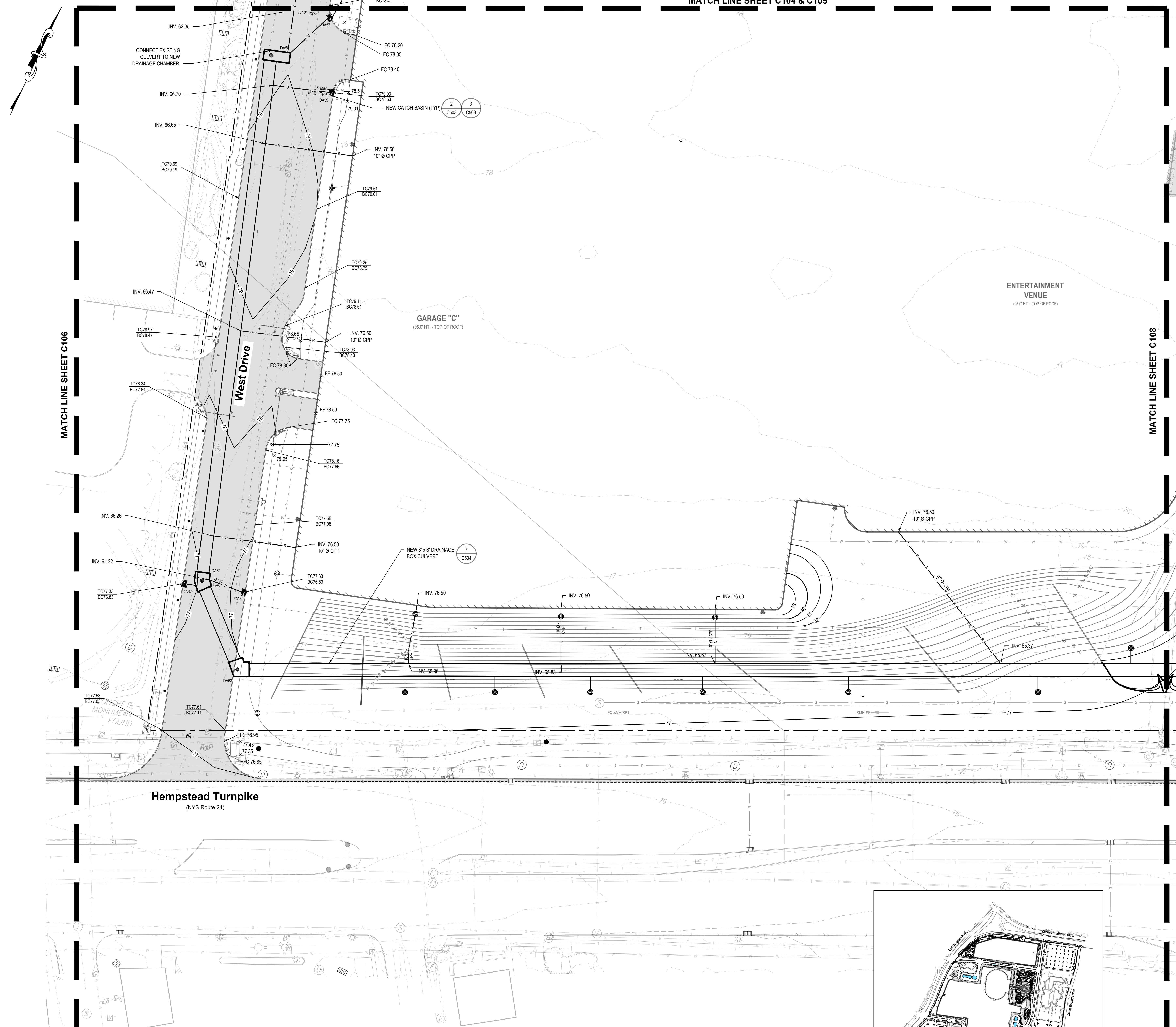
1255 Hempstead Turnpike,  
Uniondale, NY 11553  
NCTM: Sec. 44, Block F, Lots  
351, 401, 402, 411, 412, & 415

CONTRACT: \_\_\_\_\_  
STATUS: **REGULATORY REVIEW**

SHEET TITLE: **GRADING AND  
DRAINAGE PLAN -  
SOUTH**

DRAWING NO.: **C 107.00**

MATCH LINE SHEET C104 & C105



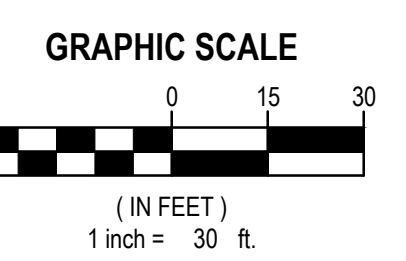
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MATCH LINE SHEET C108

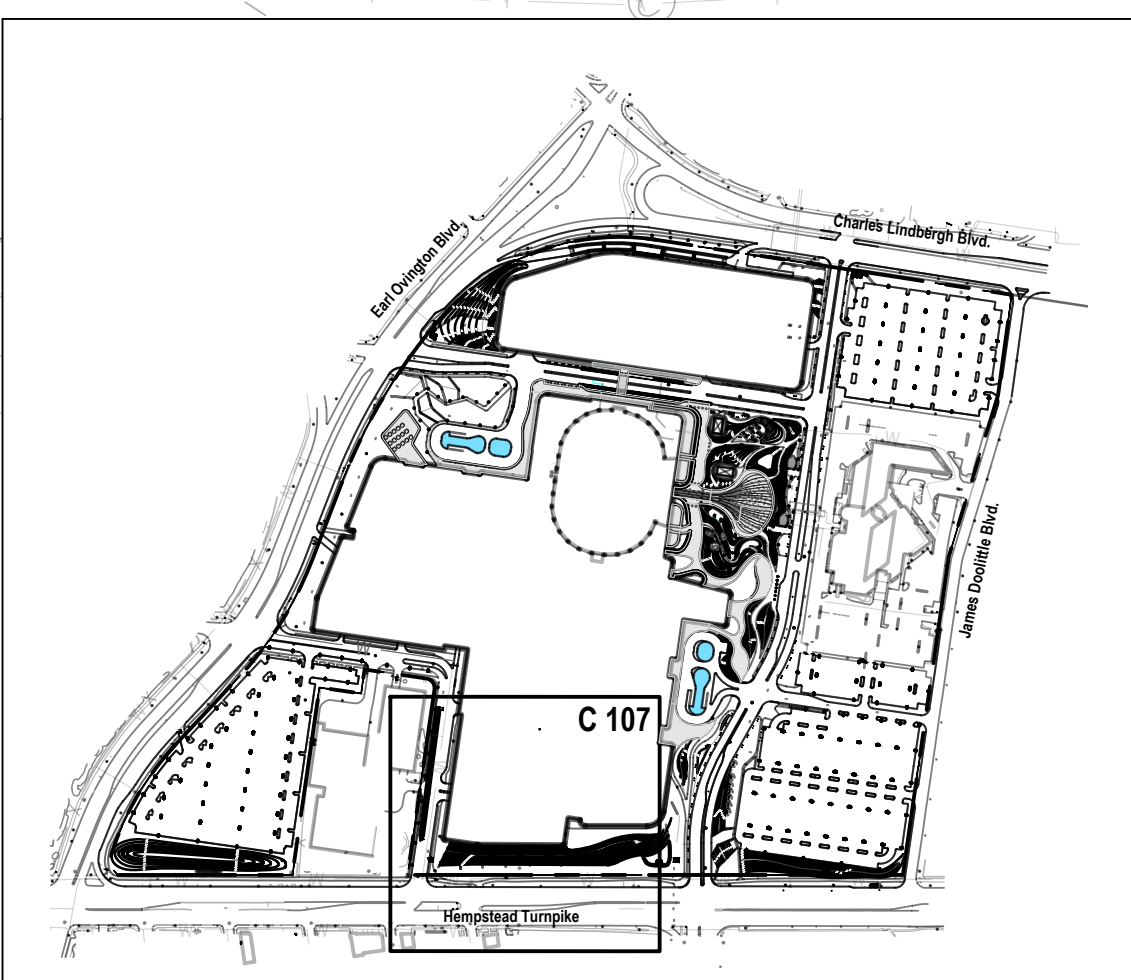
**Hempstead Turnpike**  
(NYS Route 24)

NEW 8' x 8' DRAINAGE BOX CULVERT (C504)

NEW CATCH BASIN (TYP)  
(C503, C503)



NOTE: SEE PAGE C100 FOR NOTES AND LEGEND



Drainage Plan Sheet Index  
SCALE: 1" = 600'

C:\Users\jmc@h2m.com\Drawings\Projects\1255 Hempstead Turnpike\1255 Hempstead Turnpike\1255 Hempstead Turnpike.dwg, 10/05/2024, 5:10pm, Production: 10/05/2024, 2:30pm, By: jmc

CONSULTANTS:

MARK	DATE	DESCRIPTION



R. JOEL RICHARDSON, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	REVIEWED BY
JMT	JMT/MRO	BJM	RJR

PROJECT NO: LVSC 2301     DATE: 10/05/2024     SCALE: AS SHOWN

CLIENT: **Las Vegas Sands Corp.**

Sands New York



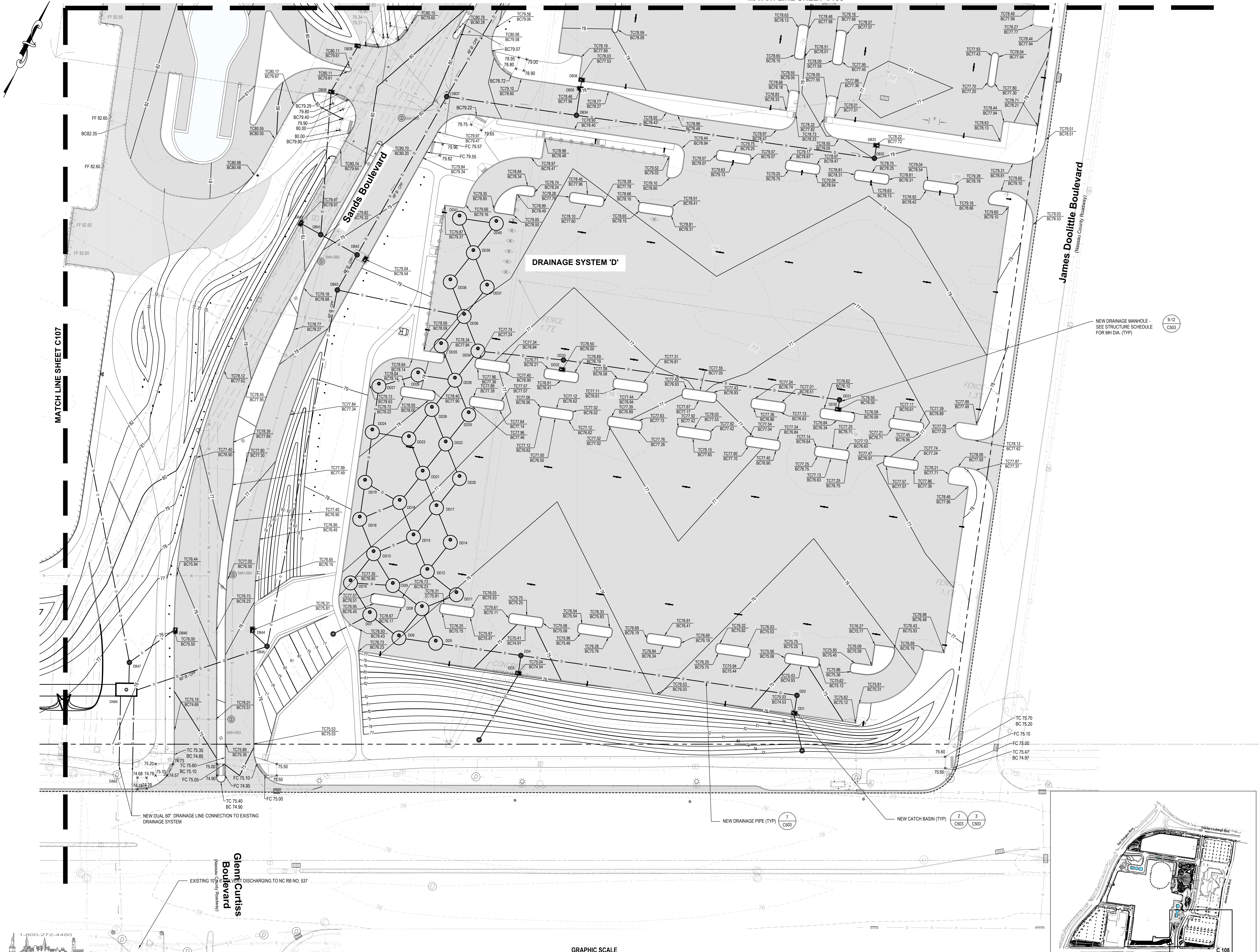
1255 Hempstead Turnpike,  
Uniondale, NY 11553  
NCTM: Sec. 44, Block F, Lots  
351, 401, 402, 411, 412, & 415

CONTRACT:     STATUS: **REGULATORY REVIEW**

SHEET TITLE: **GRADING AND DRAINAGE PLAN - SOUTHEAST**

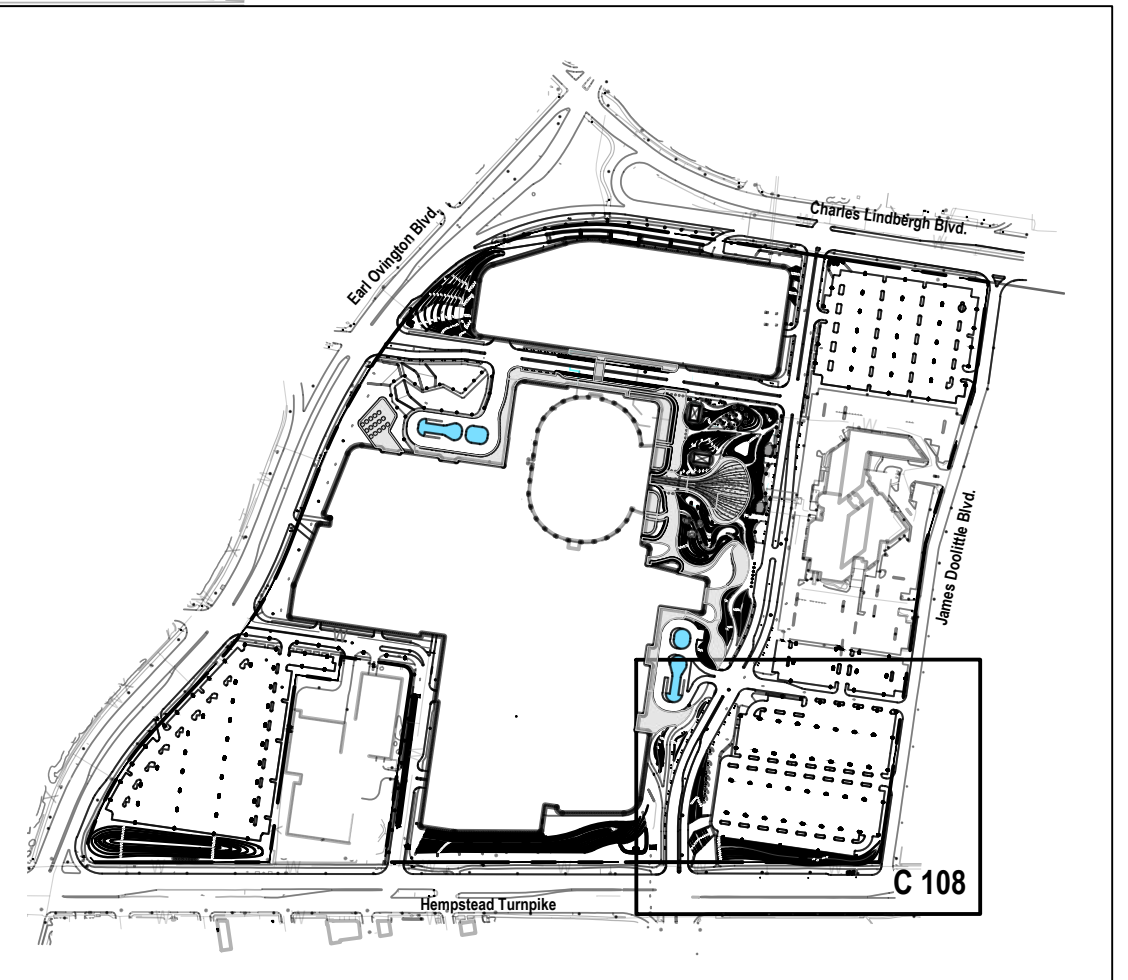
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MATCH LINE SHEET C105



NOTE: SEE PAGE C100.00 FOR NOTES AND LEGEND

GRAPHIC SCALE  
(IN FEET)  
1 inch = 30 ft



Drainage Plan Sheet Index  
SCALE: 1" = 60'



