DS #: 5284

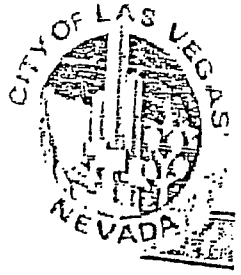
APN: 126-14-000-001, 126-24-499-010, 126-25-201-010

PROJECT: BLM 270 Centennial Parkway and Pulli Drive Infrastructure

SUBMITTAL: 2nd

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: August 3, 2020
TO: **Land Development Services** Department of Building & Safety				FROM: Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for:			**COPIES TO:**
BLM 270 Centennial Parkway and Puli Drive Infrastructure				Westwood Professional Services
Cross Streets:	Puli Drive and Dorrell Lane/Farm Road			190 Octane FT Partners, LLC
File Number:	F:\Depot\DSMemos\DS05284B.doc			Bart Anderson, P.E., DevCo
Parcel Number:	126-14-000-001, 126-24-499-010, 126-25-201-010			CCRFCD
Zoning Action:	TMP-78365			
FEMA Flood Zone	YES	NO	X	
Proposed Storm Drain	YES X	NO		

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	5/26/2020	6/15/2020	See Comments Below	$400.00	3871270: $400
2nd Submittal	7/10/2020	8/3/2020		$400.00	3911632: $400
			TOTAL FEES (LDDRS):	**$800.00**	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
X	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

The following are comments pertaining to the subject site specific drainage study and grading plans:

1. **This drainage study is acceptable in concept;** however, *City of Las Vegas* will not formally accept the study until the *Clark County Regional Flood Control District (CCRFCD)* has issued a letter of concurrence. The engineer should contact the CCRFCD to confirm that they have begun their review.

   Please note that effective April 6, 2020, only electronic submittals to the CCRFCD will be accepted for regional concurrence. Contact cwang@regionalflood.org for direction.

   When it's applicable, structural calculations of facilities must be approved by the City prior to submittal to the Clark County Regional Flood Control District for their review and concurrence.

2. The proposed improvement plans show drainage facilities of a size that must be reviewed for Maintenance and Access concerns. The engineer must submit an extra set of improvement plans to CLV Flood Control Section that will be forwarded to the Streets & Sanitation Department for their review. Streets & Sanitation approval must be secured prior to drainage study approval.

3. The project proposes to build a temporary drainage facilities. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must

submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to City of Las Vegas Flood Control for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

The temporary drainage facilities shall be maintained by the Master Developer and cannot be transferred to any HOAs.

In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

4. All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the City of Las Vegas Building & Safety Department. Approval by the Building Department must be obtained prior to the final approval of the subject drainage study.
5. Provide details of the proposed junction structure.
6. Provide a 12-foot maintenance road along the proposed storm drain system in order to access storm drain manholes within the Puli Trail.
7. The proposed storm drain is within the public right-of-way and future Puli Trail. Development of the future trail will require access to the existing storm drain manholes.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS
JKS

T/R/S: T19S/R59E/S23
AREA F-23

ADDENDUM NO. 1 TO THE TECHNICAL DRAINAGE STUDY

BLM 270 Infrastructure Centennial Parkway

PREPARED FOR:

190 Octane FT Partners, LLC
Las Vegas, Nevada

PREPARED BY:

Westwood

Westwood

5740 S. Arville St., Suite 216
Las Vegas, NV 89118

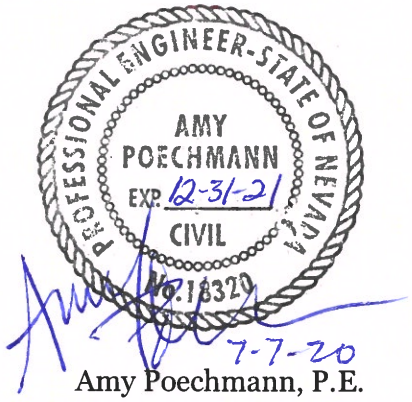
main (702) 284-5300

BLM 270 Infrastructure Centennial Parkway (Add#1)

City of Las Vegas, Nevada

Prepared For:
190 Octane FT Partners, LLC
c/o Mr. Marc Bolduc
11411 Southern Highlands Pkwy, Suite 300
Phone: (702) 220-6565
Fax: (702) 220-6566

Prepared By:
Westwood Professional Services
5740 S. Arville Street, Suite 216
Las Vegas, NV 89118
Phone: (702) 284-5300
Fax: (702) 284-5339



Project Number: OLY1923.000
Date: July 2020

Amy Poechmann, P.E.
NV Professional Engineer No. 18320
Assisted by: Abhusan Achhami

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Addendum No.1 BLM 270 Centennial Parkway Infrastructure Date: July 2020

Location of Development: a) Descriptive (Cross Streets): North/South: Puli Drive

East/West: Centennial Parkway

b) Section: 23 and 26 Township: 19 South Range: 59 East

c) APN: Portions of 126-26-000-001, 126-24-499-010, 126-23-000-003 and 126-25-201-010

Name of Owner: 190 Octane FT Partners, LLC

Telephone No.: 702-220-6565 Fax No.: 702-220-6566 E-mail Address: mbolduc@olympiacompanies.com

Address: 11411 Southern Highlands Parkway, Suite 300 Las Vegas NV 89141

Contact Person – Name: Amy Poechmann, P.E. Telephone No.: (702) 284-5300

*E-mail Address: Amy.Poechmann@westwoodps.com Fax No.: (702) 284-5399

Firm: Westwood Professional Services

Address: 5740 S. Arville #216 Las Vegas NV 89118

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivison Map	☐	Clearing and grading Only
☐	Parcel Map	☒	Planned Unit Development	☐	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit	☐	

1. Total Owned Land Area: At Site: 265 +/- acres Being Developed/Disturbed: 20 +/- acres

2. Is a portion or all of the subject property located in a FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No

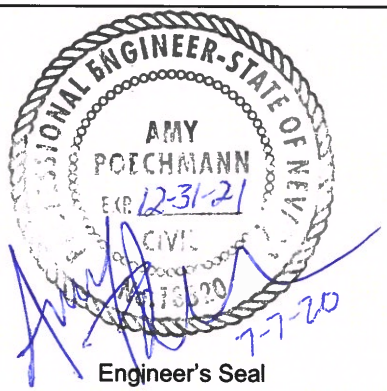
4. Proposed type of development (Residential, Commercial, Etc.): Infrastructure Improvements

5. Approximate upstream land area which drains to the subject site: 110 acres

6. Has the site drainage been evaluated in the past? ☒ Yes** ☒ No If yes, please identify documentation: Master Drainage Study - BLM 270 (DS 5236)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Flows will be routed southerly in the Puli alignment and easterly in Centennial Parkway

8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over The subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

*Newly Required Field

**Review and concurrence of the Clark County Regional Flood Control District is required

Local Entity File No.

Revision	Date

REFERENCE: STANDARD FORM 1

Updated 05/01/2008

Westwood

5740 S. Arville St., Suite 216
Las Vegas, NV 89118

Main (702) 284-5300

westwoodps.com
(888) 937-5150

OLY1923.000

July 7, 2020

Albert Sung, P.E.
City of Las Vegas
333 Rancho Drive (7th Floor)
Las Vegas, NV 89101

Subject: Addendum No. 1 to the BLM 270 Infrastructure Centennial Parkway Technical Drainage Study

Mr. Sung:

This letter certifies that all items provided on electronic submittal CD matches 100% of the *Addendum No. 1 to the BLM 270 Dorrell Infrastructure Centennial Parkway Technical Drainage Study* bound paper version.

Respectfully Submitted,
WESTWOOD PROFESSIONAL SERVICES

Amy Poechmann, P.E.
Project Manager – Water Resources Department

Westwood

5740 S. Arville St., Suite 216
Las Vegas, NV 89118

main (702) 284-5300

OLY1923.000

July 7, 2020

Ms. Jennifer Shinn, P.E.,
City of Las Vegas Department of Public Works
333 N. Rancho Drive – 7th Floor
Las Vegas, NV 89106

Subject: Addendum No. 1 to the Technical Drainage Study for BLM 270 Centennial Parkway and Puli Drive Infrastructure (DS 5284)

Dear Ms. Shinn,

This letter is submitted in response to the comments contained in the June 17, 2020 review memorandum, regarding the above referenced project. A copy of the City of Las Vegas Department of Public Works comment letter has been provided in Appendix A. The comments in the review memorandum have been individually addressed as follows:

1. **Comment**: *Provide a copy of the zoning/planning conditions associated with this site with the next submittal to verify compliance with conditions. Flood Control will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.*

   Response: The zoning/planning conditions are provided in Appendix C.

2. **Comment**: *The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study. Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.*

   http://qustfront.ccrfcd.org/LandDev/LandDev.aspx

   Response: Acknowledged. This study will be submitted to CCRFCD for concurrence following the latest CCRFCD requirements.

3. **Comment**: *The proposed improvement plans show drainage facilities of a size that must be reviewed for Maintenance and Access concerns. The engineer must submit an extra set of improvement plans to CLV Flood Control Section that will be forwarded to the Streets & Sanitation Department for their review. Streets & Sanitation approval must be secured prior to drainage study approval.*

   Response: Acknowledged. An extra set of improvement plans will be provided.

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5740 S. Arville St., Suite 216
Las Vegas, NV 89118

main (702) 284-5300

4. **Comment**: *The project proposes to build temporary drainage facilities. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to City of Las Vegas Flood Control for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.*

   The temporary drainage facilities shall be maintained by the Master Developer and cannot be transferred to any HOAs.

   In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

   Response: Acknowledged.

5. **Comment**: *Label Document Number or Book and Page Number for all existing easements on the grading plan.*

   Response: To avoid clutter and make sure that the plans are readable, the existing easement labels where not added to the grading plan. Instead the existing easement information has been provided on the horizontal control plans (Sheets HC-1 and HC-2).

6. **Comment**: *It appears the proposed storm drain main line is outside of the public right-of-way limits. Shift the storm drain alignment such that it is located a minimum distance of 3-feet from the lip of gutter in Puli Drive, within the limits of the public right-of-way.*

   Response: Due to utility conflicts, the proposed storm drain main is being left as-is. This has been coordinated with City of Las Vegas staff. Refer to e-mail correspondence provided in Appendix A.

7. **Comment**: *It is unclear which, if any, portions of Puli Road are being vacated. The right-of-way dimensions of Puli Road just north of Centennial Parkway indicate a width of 44-feet. Furthermore, it appears the curb return is being extended, thus placing the storm drain outside of right-of-way and within what appears to be the Providence Master HOA area. Provide discussion in the next submittal and call out any vacations on the Grading Plans.*

   Response: There is no vacations for any portion of the Puli Road right-of-way which is currently dedicated as 40-ft east of the section line (formerly the Puli Road centerline). The Providence Master HOA area is a 5-ft strip between the existing homes and the existing 40-ft right-of-way. The 44-ft dimension noted on the Skye Hills Drive (formerly Puli Road) is a proposed right-of-way per the BLM 270 final map. The storm drain is outside of the proposed pavement, but is within the existing 40-ft dedicated right-of-way. Refer to the horizontal

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5740 S. Arville St., Suite 216
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control plans provided with this submittal for further clarification of the locations of the easements and right-of-ways provided along Skye Hills Drive.

8. **Comment**: *Provide public drainage easements where storm drain crosses Common Lots.*

   Response: Public drainage easements have been provided and are labelled where an existing easement or right-of-way is not already provided. The 32-ft common lot north of the Centennial Parkway right-of-way has a blanket drainage easement over it so drainage easements are only proposed where the laterals extend outside of the common lot for connection into Parcel D in the future. The storm drain main in Skye Hills Drive and north of the roadway in the Puli alignment is covered by the existing 40-ft right-of-way. There is an existing BLM easement west of the 40-ft right-of-way to covers the existing laterals. Where proposed laterals extend outside of the easement, a proposed drainage easement has been provided.

9. **Comment**: *All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the City of Las Vegas Building & Safety. Department. Approval by the Building Department must be obtained prior to the final approval of the subject drainage study.*

   Response: Acknowledged. The structural items are currently under design and will be provided when completed.

10. **Comment**: ***Exhibit H*** *Centennial Infrastructure Map – Provide information on the Facility Summary Tables for Facilities P17 and X9.*

    Response: The summary tables on Exhibit H have been updated with information for Facilities P17 and X9 added. P17 is the last line of the "Proposed Condition Drainage Facility Summary (Puli alignment)" table and X9 is the last line of the "Proposed Condition Drainage Facility Summary (Centennial Parkway)" table. An updated copy of Exhibit H has been provided in Appendix B.

11. **Comment**: *Provide the cross sections of the FlowMaster.*

    Response: The cross sections of the Flowmaster have been provided in Appendix D. For ease of review, both the detailed cross section output and the cross sections from FlowMaster have been provided for sections where the cross section was missing.

12. **Comment**: *Revise the flow rates shown on the Lateral Profiles 1 & 1A to match the plan, profiles, and report values.*

    Response: The flow rates shown on lateral profiles 1 & 1A have been revised to 101 cfs. This is based on half of the Basin IOFF2 flow (202 cfs total) to each lateral. Please note that the WSPGW model uses a single 48-inch lateral so either lateral is sufficient to convey the full 202 cfs and the HGL shown on the plans is associated with a full 202 cfs in each lateral.

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13. **Comment**: *Revise the label for Lateral Profile 2.*

    Response: The label for Lateral Profile 2 has been updated.

14. **Comment:** *Show all City Record numbers on existing storm drain structures on all grading plans and profiles.*

    Response: The City Record numbers have been added to the existing storm drain in the grading and plan and profiles.

15. **Comment:** *Review and revise the match lines and plan/profile titles on all PP Sheets to reflect the correct references and streets (Centennial vs Puli or Street D). For example, the plans and profiles on Sheets OS-1 through OS-4 is labeled Centennial Storm when the sheet reflects improvements in Puli.*

    Response: The PP sheets have been reviewed and revised to reflect the correct references and streets. Please note that the street improvements along the Puli alignment are now labelled as Skye Hills Drive.

16. **Comment:** *Address the difference between Puli Drive and Street D as it appears that both are being called out inconsistently on the plans.*

    Response: The street improvements proposed north of Centennial Parkway in the Puli alignment are now proposed as Skye Hills Drive. There are no "Puli Drive" or "Street D" street improvements being proposed with this project. The plans have been updated accordingly.

    The street sections for Skye Hills Drive are now labelled Section SH and Exhibit H has been updated accordingly (they are the same as the Puli alignment/Street D sections previously provided, but the names have been changed to avoid confusion). The revised Exhibit H can be found in Appendix B and the revised FlowMaster sections can be found in Appendix D.

17. **Comment:** *Provide maintenance access and access control to the dual NDOT Type 2 inlets.*

    Response: Maintenance access is provided from the north of the existing earthen access road at the end of Centennial Parkway to top of the slope around the sump for the dual NDOT Type 2 inlets as shown on Sheet PP-1.

18. **Comment:** *Provide details of the proposed junction structure.*

    Response: A structural detail of the proposed junction structure will be provided with the structural plans once available.

19. **Comment:** *Show the existing utility crossings on the PP Sheets and provide justification for the use of the HERCP storm drain in Centennial Parkway.*

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Las Vegas, NV 89118

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Response: The existing utility crossing have been added to the Centennial Parkway PP sheets. As shown, the HERCP storm drain is being proposed to provide clearance for water and sewer crossings near Station 111+50 and a water crossing near Station 107+26.

In addition, there is a lateral from the Sky Hills Drive storm drain extension into Parcel C which is HERCP due to a conflict with an existing water main.

20. **Comment:** *If the intent of any proposed laterals are to be capped at this time, provide plug detail and call out on the plans.*

Response: A plug detail is provided on Sheet D-2 and callouts have been provided on the grading plan. Construction note No. 15 is provided on the plan and profile sheets and the plugs are labelled on the lateral profiles.

21. **Comment:** *Provide C-900 water quality pipe with concrete collar connection for 24" Storm Drain Lateral 14.*

Response: The lateral is called out as C-900, but a concrete collar connection is not provided at this time. The lateral extends from a proposed manhole so no concrete collar is required at the downstream end and a plug is proposed at the upstream end for this plan set. If the lateral is to be extended in the future, then the future plans will provide either a manhole at the point of connection or a concrete collar detail as appropriate. Therefore, no concrete collar connection is proposed with this plan set.

22. **Comment:** *The plans call out a 60" manhole at SDMH #43 but the profile calls out a 72" manhole. Review and revise notes accordingly.*

Response: The manhole will be a 72" manhole as noted per construction note No. 12 in the profile view on Sheet PP-4.

23. **Comment:** *Revise all drop inlets to Type "C-D" Modified Drop Inlet per Standard Drawing 412.1 or Neenah Pre-cast inlets. Note that the lengths of "C-D" modified inlets are in the multiple of 2.5'. Revise all pertinent construction notes and callouts accordingly.*

Response: Only one curb inlet is proposed with this plan set. SDDI#1 is located at the northwest corner of Centennial Parkway and Skye Hills Drive and is now proposed as a Type CM2 inlet per CCASUD 412.1 as called out by construction note no. 13 on Sheet SD-1.

24. **Comment:** *Provide rip rap at the sump located at the northwest corner of Centennial Parkway and Puli Drive for BMP purposes.*

Response: Riprap is provided at the sump located at the northwest corner of Centennial Parkway and Skye Hills Drive (formerly Puli Drive).

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5740 S. Arville St., Suite 216
Las Vegas, NV 89118

main (702) 284-5300

25. **Comment:** *Provide a note on all grading plans: Property Owner is responsible to maintain the best management practices such as but not limited to the removal of accumulated sediment and debris and care of the vegetation.*

Response: The grading plans has a "Las Vegas Valley Construction Site BMP Guidelines" notes block. This addresses the owner's responsibilities for best management practices and is believed to address the intent of the note above. In addition, a note has been added to the grading sheets just to the right of the BMP notes.

Additional Changes:
The technical drainage study for Parcel D at BLM 270 is being completed concurrently with this addendum. As part of the coordination efforts, the flows routed to the Centennial Infrastructure from Parcel D have been updated. An additional lateral from Parcel D into the Centennial storm drain has been added and the flow rates to the other laterals have been revised resulting in some minor changes to the proposed laterals. The changes are reflected in the plans and revised storm drain models have been provided in Appendix E. The onsite drainage map (Exhibit H) has been updated to reflect the changes as well and is provided in Appendix B.

The above responses, revised computations and revisions provided on the plans have adequately satisfied the concerns in the subject review memorandum. The revised plan, profile, and detail sheets adopting the revisions addressed in this letter have been included separately with this submittal. If you have any questions or require additional information, please do not hesitate to contact our office at (702) 284-5300.

Respectfully Submitted,
WESTWOOD PROFESSIONAL SERVICES

Amy Poechmann
Project Manager

cc: Mark Failla, P.E., CFM
Josh Johnson, P.E.

Westwood

5740 S. Arville St., Suite 216
Las Vegas, NV 89118

main (702) 284-5300

APPENDIX

Appendix A – CLV Comment Letter and Email Correspondence

Appendix B – Revised Drainage Exhibits
- Exhibit H – Centennial Infrastructure

Appendix C – Zoning and Planning Conditions

Appendix D – FlowMaster Computations
- Centennial Parkway
- Skye Hills Drive

Appendix E – Revised Storm Drain Computations
- WSPGW Model
  - Centennial-Skye Main
  - Centennial Lateral
  - Lateral 7
- Other Storm Drain Computations

Appendix F – Grading Plan, Profile & Detail Sheets

APPENDIX A

CLV Comment Letter and Email Correspondence

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: June 17, 2020
TO: **Land Development Services** Department of Building & Safety				FROM: Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for:			**COPIES TO:**
BLM 270 Centennial Parkway and Puli Drive Infrastructure				Westwood Professional Services
Cross Streets:	Puli Drive and Dorrell Lane/Farm Road			190 Octane FT Partners, LLC
File Number:	F:\Depot\DSMemos\DS05284A.doc			Bart Anderson, P.E., DevCo
Parcel Number:	126-14-000-001, 126-24-499-010, 126-25-201-010			CCRFCD
Zoning Action:				
FEMA Flood Zone	YES	NO **X**		
Proposed Storm Drain	YES **X**	NO		

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	5/26/2020	6/15/2020	See Comments Below	$400.00	3871270: $400
			TOTAL FEES (LDDRS):	**$400.00**	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
X	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

The following are comments pertaining to the subject site specific drainage study and grading plans:

1. Provide a copy of the zoning/planning conditions associated with this site with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.

2. The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

   Please note that effective March 15, 2019, the CCRFCD adopted new requirements for drainage study concurrence submittal. Follow the link below for specific guidance.

   http://gustfront.ccrfcd.org/LandDev/LandDev.aspx

3. The proposed improvement plans show drainage facilities of a size that must be reviewed for Maintenance and Access concerns. The engineer must submit an extra set of improvement plans to CLV Flood Control Section that will be forwarded to the Streets & Sanitation Department for their review. Streets & Sanitation approval must be secured prior to drainage study approval.

4. The project proposes to build a temporary drainage facilities. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to City of Las Vegas Flood Control for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

   The temporary drainage facilities shall be maintained by the Master Developer and cannot be transferred to any HOAs.

   In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

5. Label Document Number or Book and Page Number for all existing easements on the grading plan.

6. It appears the proposed storm drain main line is outside of the public right-of-way limits. Shift the storm drain alignment such that it is located a minimum distance of 3-feet from the lip of gutter in Puli Drive, within the limits of the public right-of-way.

7. It is unclear which, if any, portions of Puli Road are being vacated. The right-of-way dimensions of Puli Road just north of Centennial Parkway indicate a width of 44-feet. Furthermore, it appears the curb return is being extended, thus placing the storm drain outside of right-of-way and within what appears to be the Providence Master HOA area. Provide discussion in the next submittal and call out any vacations on the Grading Plans.

8. Provide public drainage easements where storm drain crosses Common Lots.

9. All special structures and mainline storm drain connection require details and structural calculations to be reviewed by the City of Las Vegas Building & Safety Department. Approval by the Building Department must be obtained prior to the final approval of the subject drainage study.

10. **Exhibit H** Centennial Infrastructure Map – Provide information on the Facility Summary Tables for Facilities P17 and X9.

11. Provide the cross sections for the FlowMaster models.

12. Revise the flow rates shown on the Lateral Profiles 1 & 1A to match the plan, profiles, and report values.

13. Revise the label for Lateral Profile 2.

14. Show all City Record numbers on existing storm drain structures on all grading plans and profiles.

15. Review and revise the match lines and plan/profile titles on all PP Sheets to reflect the correct references and streets (Centennial vs Puli or Street D). For example, the plans and profiles on Sheets OS-1 through OS-4 is labeled Centennial Storm when the sheet reflects improvements in Puli.

16. Address the difference between Puli Drive and Street D as it appears that both are being called out inconsistently on the plans.

17. Provide maintenance access and access control to the dual NDOT Type 2 inlets.

18. Provide details of the proposed junction structure.

19. Show the existing utility crossings on the PP Sheets and provide justification for the use of the HERCP storm drain in Centennial Parkway.

20. If the intent of any proposed laterals are to be capped at this time, provide plug detail and call out on the plans.

21. Provide C-900 water quality pipe with concrete collar connection for 24" Storm Drain Lateral 14.
22. The plans call out a 60" manhole at SDMH #43 but the profile calls out a 72" manhole. Review and revise notes accordingly.
23. Revise all drop inlets to Type "C-D" Modified Drop Inlet per Standard Drawing 412.1 or Neenah Pre-cast inlets. Note that the lengths of "C-D" modified inlets are in the multiple of 2.5'. Revise all pertinent construction notes and callouts accordingly.
24. Provide rip rap at the sump located at the northwest corner of Centennial Parkway and Puli Drive for BMP purposes.
25. Provide a note on all grading plans: Property Owner is responsible to maintain the best management practices such as but not limited to the removal of accumulated sediment and debris and care of the vegetation.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS
JKS

T/R/S: T19S/R59E/S23
AREA F-23

Amy Poechmann

From: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Sent: Monday, July 6, 2020 4:32 PM
To: Josh Johnson
Cc: Amy Poechmann
Subject: RE: TDS for Centennial Parkway and Puli alignment

Hi Josh,

Yes, structural plans can be included in the plan set and reviewed with the express review.

Thank you,

Jennifer Shinn
Engineering Associate
Department of Public Works | City Engineering Division
Phone: (702) 229-6131
333 N. Rancho, floor | Las Vegas, NV 89106

lasvegasnevada.gov

Your opinion is important! Click here to take a short survey.

From: Josh Johnson <Josh.Johnson@westwoodps.com>
Sent: Monday, July 6, 2020 9:54 AM
To: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Cc: Amy Poechmann <Amy.Poechmann@westwoodps.com>
Subject: RE: TDS for Centennial Parkway and Puli alignment

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Jen,
I think we are good on the location of the storm drain for this one. The other question I had was if the structural details and calculations could be included in the plan set and reviewed in the express review? That is the way we did Sunstone. BTW, we are trying to wrap up the comment on this set and get them back to you today or tomorrow.
Thanks

Josh Johnson
Senior Project Manager
josh.johnson@westwoodps.com

direct (702) 527-6680
main (702) 284-5300
cell (702) 499-5368

Westwood

5740 S. Arville Street, Suite 216
Las Vegas, NV 89118

westwoodps.com
(888) 937-5150

From: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Sent: Monday, June 29, 2020 6:13 AM
To: Josh Johnson <Josh.Johnson@westwoodps.com>
Subject: RE: TDS for Centennial Parkway and Puli alignment

Hi Josh,

Yes, please provide access along the SD as well as access at all manholes. If landscaping is proposed, please be sure there are no walls or trees over the SD. If you want, you can send me a draft before you resubmit so we can make sure we are on the same page.

Thanks,

Jennifer Shinn
Engineering Associate
Department of Public Works | City Engineering Division
Phone: (702) 229-6131
333 N. Rancho, floor | Las Vegas, NV 89106

lasvegasnevada.gov

Your opinion is important! Click here to take a short survey.

From: Josh Johnson <Josh.Johnson@westwoodps.com>
Sent: Wednesday, June 24, 2020 4:33 PM
To: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Subject: RE: TDS for Centennial Parkway and Puli alignment

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Hey Jen,
We took another look at this and the sewer is 13'-17' away from the 36" water line measured center to center. So in some places we are already too close with the sewer to the 36" water. We'll likely have to make the sewer water quality. I think we are stuck with where we are. Good news is that we are still in Right of Way and we are happy to make sure there is access along the SD and whatever you would like to see to access the manholes.
Let me know.
Thanks.

Josh Johnson
Senior Project Manager
josh.johnson@westwoodps.com

direct (702) 527-6680

main (702) 284-5300
cell (702) 499-5368

Westwood
5740 S. Arville Street, Suite 216
Las Vegas, NV 89118

westwoodps.com
(888) 937-5150

From: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Sent: Monday, June 22, 2020 6:42 AM
To: Josh Johnson <Josh.Johnson@westwoodps.com>
Subject: RE: TDS for Centennial Parkway and Puli alignment

Hi Josh,

Can the sewer be shifted west 10' and the SD set 6' clear from SS? We need to try to get that SD within the public right-of way as much as possible.

From: Josh Johnson <Josh.Johnson@westwoodps.com>
Sent: Friday, June 19, 2020 3:44 PM
To: Jennifer Shinn <jshinn@LasVegasNevada.GOV>
Subject: TDS for Centennial Parkway and Puli alignment

CAUTION: This email originated from an **External Source**. Please **use caution** before opening attachments, clicking links, or responding to this email. **Do not sign-in with your City of Las Vegas account credentials.**

Jen,
Can we discuss two of the comments on the attached TDS?

#6 is asking to relocate the SD further to the west, but I don't think we can get that to work with the other utilities in the Puli alignment. We already have a 24" water line, a 36" water line, a 12" sewer and a 6" gas. Please see the attached exhibit and let me know if we can keep our current alignment.

#9 Just wanted to discuss processing for the structural. In our Sunstone Infrastructure packages, we included the structural with the Improvement Plans and they got reviewed with the express review. My understanding is that is the way the express reviewers prefer it. Just let me know.

Thank you looking into these two items. Call me if you need to.

Josh Johnson
Senior Project Manager
josh.johnson@westwoodps.com

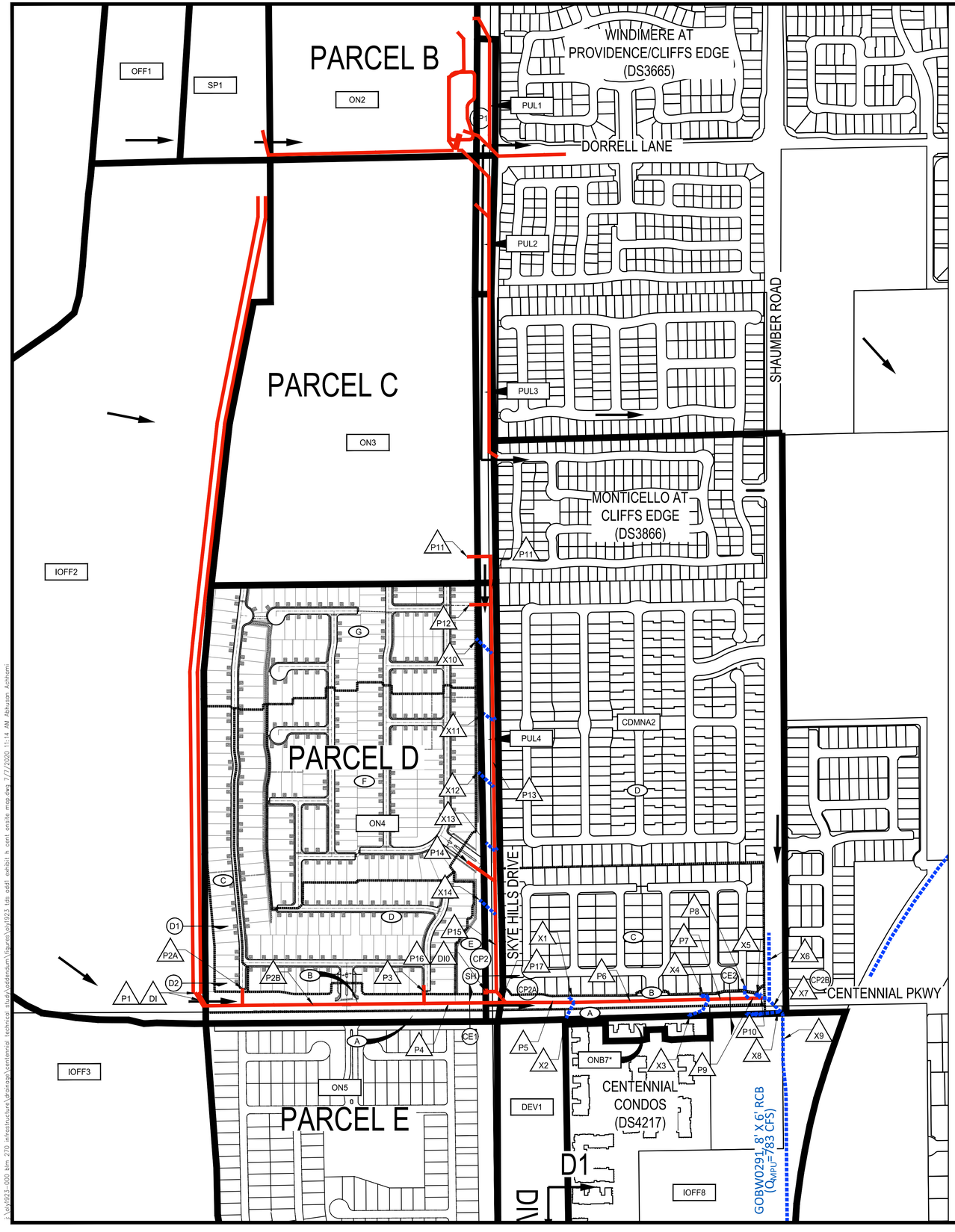
direct (702) 527-6680
main (702) 284-5300
cell (702) 499-5368

Westwood
5740 S. Arville Street, Suite 216
Las Vegas, NV 89118

westwoodps.com
(888) 937-5150

APPENDIX B

Revised Drainage Exhibits



Proposed Offsite Ditch Hydraulic Summary Table
Freeboard Calculations based on Section 706 from the CCRDCD Manual

Cross Section	Contributing Basin(s)	Q_{100} (cfs)	Slope (%)	Flow Velocity	Flow Depth	Froude No.	Freeboard (ft)	Total Depth	Design Depth	Notes
D1	IOFF2	202	0.50	4.41	1.19	0.75	1.00	2.19	2.2	
D2	IOFF2	202	8.80	7.88	0.69	1.72	1.17	1.86	1.9	Specific Energy = 1.66-ft

Equation 741: Fb=0.5+V^2/2g (Sub-critical)
Equation 747: Fb=1.0+.025VD^1/3 (Super-critical)
Note: Per Section 706.1.3 in no case shall the freeboard be less than 1 foot. All channel linings must extent to freeboard height.

Prorated Flow Summary

Basin ID	Q_{100} (cfs)	Q_{10} (cfs)	Area (acres)	100-yr Unit Flow (cfs/acre)	10-yr Unit Flow (cfs/acre)
ON4	187	92	60.7	3.1	1.5
CDMNA2	221	102	80.0	2.8	1.3
Subbasin ID	**Q_{100} (cfs)**	**Q_{10} (cfs)**	**Area (acres)**	**100-yr Unit Flow (cfs/acre)**	**10-yr Unit Flow (cfs/acre)**
ON4(A)	4	2	1.3	3.1	1.5
ON4(B)	9	5	3.0	3.1	1.5
ON4(C)	13	6	4.1	3.1	1.5
ON4(D)	45	22	14.5	3.1	1.5
ON4(E)	10	5	3.2	3.1	1.5
ON4(F)	60	30	19.6	3.1	1.5
ON4(G)	46	23	15.0	3.1	1.5
TOTAL	***187***	***92***	***60.7***		
CDMNA2(A)	4	2	1.4	2.8	1.3
CDMNA2(B)	5	2	1.8	2.8	1.3
CDMNA2(C)	47	22	16.9	2.8	1.3
CDMNA2(D)	166	76	60.0	2.8	1.3
TOTAL	***221***	***102***	***80.0***		

Proposed Condition 100-Year Street Flow Summary

Section ID	Q_{100} (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	DxV
CE1 (North) (Q = ON4(B))	9	2.00	0.44	3.77	1.7
		6.50	0.38	5.91	2.2
CE1 (South) (Q = ON4(A))	4	2.00	0.35	3.28	1.1
		6.50	0.30	4.92	1.5
CE2 (North) (Q = ON4(B) + ON4(E) +PUL3 + PUL4 + CDMNA2(B))	45	2.00	0.70	5.57	3.9
		6.03	0.59	8.42	5.0
CE2 (South) (Q = ON4(A)+ONB7*+CDMNA2(A))	11	2.00	0.47	3.96	1.9
		6.03	0.40	6.02	2.4
SH (Q = PUL3 + PUL4 + ON4(E))	31	1.00	0.50	3.28	1.6
		2.75	0.44	4.49	2.0

Proposed Condition Drainage Facility Summary (Centennial Parkway)

Facility ID	Facility Description	Contributing Flows	WSPW Model	Q_{100} (cfs)	Comment
D1	Proposed Dual Field Inlets	IOFF2	N/A	202	Half to each inlet
P1	Proposed Dual 48" RCP	IOFF2	CE-LAT	202	Half to each lateral
P2A	Proposed 18" RCP	ON4(C)	CE-LAT	13	
P2B	Proposed 48" RCP	IOFF2	CE-LAT	215	
P3	Proposed 36" RCP	ON4(D)	Lateral Loss	44	
P4	Proposed 54" RCP	IOFF2 + ON4(C) + ON4(D)	CE-LAT	259	In CE-LAT model, Q=259 cfs; but Q added at junction in CE-SH model is 247 cfs
P5	Proposed 60" RCP; Replace Ex 36"	CP2A	CE-SH	503	Q(design)=63 cfs for existing 36"
X1	Existing Inlet and Lateral	N/A	N/A	0	Nuisance Flows Only; Connect existing lateral into proposed main
X2	Existing Inlet and Lateral	N/A	N/A	0	Nuisance Flows Only; Connect existing lateral into proposed main
P6	Proposed 60" RCP; Replace Ex 36"	CP2A	CE-SH	503	Q(design)=63 cfs for existing 36"
X3	Existing Inlet and Lateral	N/A	N/A	0	Nuisance Flows Only; Connect existing lateral into proposed main
X4	Existing Inlet and 29"x45" HERCP Lateral	PUL3 + PUL4 + ON4(B) + CDMNA2(B)	CE-SH	33	Q(design)= 89 cfs
P7	Proposed 60" RCP; Replaces Ex 54" RCP	CP2A + PUL3 + PUL4 + ON4(B) + CDMNA2(B)	CE-SH	536	Ex 54" RCP = GOBW 0310; Q(design)= 327 cfs Q(2018 MPU) = 501 cfs
P8	Existing 24" RCP	10-yr CDMNA2(C)	CE-SH	22	Q(design)=31 cfs per Pod 307; 10-year flows only
P9	Proposed 5'x5' RCB; Replaces Ex 54" RCP	CP2A + PUL3 + PUL4 + ON4(B) + CDMNA2(B) + 10-yr CDMNA2(C)	CE-SH	558	Ex 54" RCP = GOBW 0310; Q(design)= 327 cfs Q(2018 MPU) = 501 cfs
X5	Existing Inlet and 29"x45" HERCP Lateral	100-yr CDMNA2(C) - 10-yr CDMNA(C)	CE-SH	25	Q(design)= 89 cfs
P10	Proposed 5'x5' RCB; Replaces Ex 54" RCP	CP2A + PUL3 + PUL4 + ON4(B) + CDMNA2(B+C)	CE-SH	583	Ex 54" RCP = GOBW 0310; Q(design)= 327 cfs Q(2018 MPU) = 501 cfs
X6	Existing 72" RCP	CDMNA2(D)	CE-SH	166	Q(design) = 329 cfs
X7	GOBW 0291: Existing 8'x6' RCB	CP2A + PUL3 + PUL4 + ON4(B) + CDMNA2 (B+C)	CE-SH	749	Q(design) = 656 cfs; Q(2018 MPU)= 783 cfs;
X8B	Existing Curb Inlets with 54" RCP Lateral	ON4(A) + CDMNA2(A) + ONB7*	CE-SH	12	Q(design)=178.5 cfs
X9	GOBW 0291: Existing 8'x6' RCB	CP2A + PUL3 + PUL4 + ON4(A+B) + CDMNA2	CE-SH	761	Q(design) = 814 cfs; Q(2018 MPU)= 783 cfs; Q(CP2B) = 745 cfs

Proposed Condition Drainage Facility Summary (Skye Hills Drive)

Facility ID	Facility Description	Contributing Flows	WSPW Model	Q_{100} (cfs)	Comment
P11	Proposed 68"x43" HERCP	ON3	CE-SH	155	
P12	Proposed 24" RCP	ON4(G)	CE-SH	46	
X10 thru X14	Existing laterals	N/A	N/A	0	Nuisance Flows Only; Connect existing lateral into proposed main
P13	Proposed 54" RCP; Replaces Ex 36" RCP	ON3 + ON4(G)	CE-SH	201	
P14	Proposed 54" RCP	ON4(D)	CE-SH	61	
P15	Proposed 60" RCP; Replaces Ex 36" RCP	ON3 + ON4(D)	CE-SH	262	
DI0	Proposed Curb Inlet	N/A	N/A	0	Nuisance flows only
P16	Proposed 24" RCP	N/A	N/A	0	Nuisance flows only
P17	Proposed 60" RCP; Replaces Ex 36" RCP	ON3 + ON4(D)	CE-SH	262	

0 250 500
SCALE – 1"=250' FEET

LEGEND

- BASIN BOUNDARY
- PRORATED SUBBASIN BOUNDARY
- ID — BASIN ID
- ID — PRORATED SUBBASIN ID
- ID — CONCENTRATION POINT ID
- FLOW DIRECTION
- ID — FLOWMASTER SECTION
- ID — FACILITY ID
- EXISTING DRAINAGE FACILITY
- PROPOSED DRAINAGE FACILITY
- FUTURE DRAINAGE FACILITY

Proposed Condition Flow Rate Summary

Basin/Concentration Point ID	Area (mi^2)	Q_{100} (cfs)	Q_{10} (cfs)
ON1	0.06	53	13
ON2	0.07	121	50
ON3	0.08	155	75
ON4	0.09	187	92
ON5	0.11	193	88
SP1	0.05	87	36
OFF1	0.06	75	27
IOFF2	0.17	202	80
IOFF3	0.14	216	83
OFF4	0.34	508	200
OFF5	0.32	392	157
OFF6	1.81	2311	987
OFF7	1.25	1429	610
IOFF8	0.07	122	49
PUL1	0.00	4	2
PUL2	0.00	5	2
PUL3	0.00	9	4
PUL4	0.01	12	6
DET	0.05	80	33
DEV1	0.01	29	14
DEV2	0.04	61	25
INT1	0.02	27	8
INT2	0.02	25	10
INT3	0.01	3	<1
INT4	0.01	3	<1
INT5	0.00	2	1
INT6	0.19	299	115
ONB7*	0.00	3	2
CDMNA2**	0.13	221	102
CP1 Q = ON2 + SP1 + OFF1	0.18	279	113
CP2 Q = ON3 + ON4	0.18	343	167
CP2A Q = CP2 + IOFF2	0.34	503	226
CP2B Q= CP2A + PUL3 + PUL4 + CDMNA2*** + ONB7*	0.48	745	339
DET-OT Discharge from Detention Basin	3.76	137	95
CPSLAT Q = DET-OT + INT1	3.78	138	95
CP3 Q = CPSLAT + ON5 + IOFF3	4.03	468	240
DIV1*** Flow from DEV1 south thru DEV2	0.01	18	8
D1*** Flow from DEV1 east thru IOFF8	0.01	11	6
CP3A Q = CP3 + DIV1** + DEV2 + INT2 + INT3	4.09	556	279
CP4 Q = CP3A + INT4 +INT5	4.09	560	280
CP5 Q = CP2B + CP4 + D1*** + IOFF8	4.65	1334	675
CP6 Q = CP5 + INT6	4.89	1594	790

*Referenced from Condos Study (DS 4217)
**Referenced from Beltway Study (L-1803)
***Diversion referenced from Townhomes Study (DS 5232)

NOTES:
1. REFER TO EXHIBIT E FOR THE FULL EXTENTS OF THE PROPOSED CONDITION DRAINAGE BASINS.
2. PROPOSED CONDITION CONTROLS DESIGN; ULTIMATE CONDITION FLOWS REDUCED BY FUTURE SHEEP MOUNTAIN PARKWAY IMPROVEMENTS

Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

OLYMPIA
BLM 270 CENTENNIAL INFRASTRUCTURE
CENTENNIAL INFRASTRUCTURE MAP

DATE: JULY 2020
DRAFTER: ARP
DESIGNER: ARP
CHECKED: LL/ARP
PROJECT NO. OLY1923.000

EXHIBIT H
SHEET 1 OF 1

J:\oly1923-000 blm 270 infrastructure\drainage\centennial technical study\xddesdum\figures\oly1923 tds ddsf exhibit h_cent cnstrc map.dwg 7/7/2020 11:14 AM Abhuson Achhami

APPENDIX C

Zoning and Planning Conditions

V

LAS VEGAS CITY COUNCIL

CAROLYN G. GOODMAN
Mayor

MICHELE FIORE
Mayor Pro Tem

STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING

ROBERT SUMMERFIELD
DIRECTOR

DEVELOPMENT SERVICES CENTER
333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY

cityoflasvegas
lasvegasnevada.gov

April 16, 2020

Mr. Chris Armstrong
190 Octane FT Partners, LLC
11411 Southern Highlands Parkway, Suite #300
Las Vegas, Nevada 89141

RE: GPA-78033 [PRJ-77997] - GENERAL PLAN AMENDMENT RELATED TO ZON-78241, VAC-78242 AND TMP-78365 CITY COUNCIL MEETING OF APRIL 15, 2020

Dear Mr. Armstrong:

The City Council at a regular meeting held on April 15, 2020 voted to ***APPROVE*** your request for a General Plan Amendment FROM: PF (PUBLIC FACILITIES) AND DR (DESERT RURAL DENSITY RESIDENTIAL) TO: PCD (PLANNED COMMUNITY DEVELOPMENT) on 275.80 acres on the west side of Puli Road between Farm Road and Tropical Parkway (portions of APNs 126-26-000-001, 126-23-000-003 and 126-14-000-003), Ward 6 (Fiore) [PRJ-77997].

The Notice of Final Action was filed with the Las Vegas City Clerk on April 16, 2020.

Sincerely,

Robert Summerfield

Robert Summerfield, AICP
Director
Department of Planning

RTS:PL:clb

cc: Ms. Chelsea Jensen
Slater Hanifan Group
5740 South. Arville Street, Suite #216
Las Vegas, Nevada 89118

LAS VEGAS CITY COUNCIL
CAROLYN G. GOODMAN
Mayor
MICHELE FIORE
Mayor Pro Tem
STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING
ROBERT SUMMERFIELD
DIRECTOR

DEVELOPMENT SERVICES CENTER
333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY

cityoflasvegas
lasvegasnevada.gov

April 16, 2020

Mr. Chris Armstrong
190 Octane FT Partners, LLC
11411 Southern Highlands Parkway, Suite #300
Las Vegas, Nevada 89141

RE: TMP-78365 [PRJ-77997] - TENTATIVE MAP RELATED TO GPA-78033, ZON-78241 AND VAC-78242
CITY COUNCIL MEETING OF APRIL 15, 2020

Dear Mr. Armstrong:

The City Council at a regular meeting held on April 15, 2020 voted to ***APPROVE*** your request for a Tentative Map FOR A 12-LOT MASTER PLANNED RESIDENTIAL SUBDIVISION on 275.80 acres on the west side of Puli Road between Farm Road and Tropical Parkway (portions of APNs 126-26-000-001, 126-23-000-003 and 126-14-000-003), U (Undeveloped) Zone [DR (Desert Rural Density Residential) General Plan Designation] and C-V (Civic) Zone [PROPOSED: PD (Planned Development)], Ward 6 (Fiore) [PRJ-77997].

This approval is subject to the following conditions:

Planning

1. Approval of the Tentative Map shall be for no more than four (4) years. If a Final Map is not recorded on all or a portion of the area embraced by the Tentative Map within four (4) years of the approval of the Tentative Map, this action is void.

2. Approval of a General Plan Amendment (GPA-78033) and Rezoning (ZON-78241) and approval of and conformance to the conditions of approval of a Petition to Vacate (VAC-78242) shall be required, if approved.

3. All development shall conform to the BLM 270 Design Guidelines and related exhibits or Title 19, as applicable. A Site Development Plan Review is required for development of one or more Builder Parcels.

4. All future child tentative maps proposed within the boundaries of this large-lot tentative map shall clearly indicate the locations and segments of all trails identified by the Trails Element of the Las Vegas 2020 Master Plan and the BLM 270 Design Guidelines as applicable.

5. All future child tentative maps proposed within the boundaries of this large-lot tentative map shall provide perimeter wall details and elevations in conformance with the standards and procedures contained within the BLM 270 Design Guidelines as applicable.

6. Conceptual landscape plans for the perimeters of Builder Parcels contained within the boundaries of this tentative map shall be submitted concurrently with submittal of a Site Development Plan Review for Builder Parcels.

7. Street names must be provided in accordance with the City's Street Naming Regulations.

8. A fully operational fire protection system, including fire apparatus roads, fire hydrants and water supply, shall be installed and shall be functioning prior to construction of any combustible structures.

9. In conjunction with creation, declaration and recordation of the subject common-interest community, and prior to recordation of the Covenants, Codes and Restrictions ("CC&R"), or conveyance of any unit within the community, the Developer is required to record a Declaration of Private Maintenance Requirements ("DPMR") as a covenant on all associated properties, and on behalf of all current and future property owners. The DPMR is to include a listing of all privately owned and/or maintained infrastructure improvements, along with assignment of maintenance responsibility for each to the common interest community or the respective individual property owners, and is to provide a brief description of the required level of maintenance for privately maintained components. The DPMR must be reviewed and approved by the City of Las Vegas Department of Field Operations prior to recordation, and must include a statement that all properties within the community are subject to assessment for all associated costs should private maintenance obligations not be met, and the City of Las Vegas be required to provide for said maintenance. Also, the CC&R are to include a statement of obligation of compliance with the DPMR. Following recordation, the Developer is to submit copies of the recorded DPMR and CC&R documents to the City of Las Vegas Department of Field Operations.

10. All development is subject to the conditions of City Departments and State Subdivision Statutes.

Public Works

11. A Petition of Vacation, such as VAC-78242, to eliminate Bureau of Land Management (BLM) rights-of-way and City of Las Vegas utility easements within this site shall record immediately prior to (concurrent with) the appropriate phase of the Final Map for this site.

12. Dedicate the appropriate rights-of-way for Dorrell Lane, Centennial Parkway, and each Neighborhood Collector street with the first Final Map for this site unless otherwise allowed by the City Engineer. Additionally grant a Multi-Use Non-Equestrian Easement over the portion of the proposed Puli alignment trail that is outside of the public right-of-way. All Trails, Common Elements, and private improvements in the public right-of-way are to be maintained by the Master Homeowner's Association.

13. Grant minimum 20-foot wide Public Sewer Easements through Parcels D-2 and C-1, to provide public sewer access to Parcels D-1 and C-2, respectively.

14. Provide easements for all required public infrastructure (sewer, drainage, traffic, etc.) that are located outside of the public rights-of-way as well as access for each designated builder parcel to a public street. The City Traffic Engineer reserves the right to require sidewalk ramps and associated easements throughout this site to improve walkability.

15. Prior to the recordation of the first Final Map for this site, construct all public streets to meet the standards approved in ZON-78241. A conceptual bond for full improvements of Dorrell Lane and Centennial Parkway may be used in lieu of constructing these improvements for purposes of recording a large lot Final Map.

16. Public Streetlights shall match those approved in Skye Canyon. Prior to final acceptance of offsite improvements, the applicant shall provide two spare streetlight poles.

17. The submitted Sanitary Sewer Master Plan must be approved by the Sanitary Sewer Planning Section of the Department of Public Works prior to submittal of civil improvement plans for sanitary sewers. Revise the sewer paths to connect sewer from Parcels A-1 & A-2 to Farm Road. All related development must comply with all requirements of the approved Master Sewer Plan.

18. Extend oversized public sewer in Tropical Parkway to the west edge of this development. Reserve, dedicate, or grant a 40-foot wide public sewer easement for the Tropical Parkway alignment, or other dimension as allowed by City Engineer. Portions of this site are dependent on the construction of public sewer segments that do not currently exist. If not constructed or guaranteed by another development, construct the required sewer lines to connect this site to a public sewer line as required by the Department of Public Works.

19. A minimum two lanes of asphalt pavement on all public streets providing the main access to Designated Builder Parcels and a working sanitary sewer connection shall be provided prior to a final inspection of any individual dwelling units within this Tentative Map.

20. All landscaping and private improvements installed with this project shall be situated and maintained so as to not create sight visibility obstructions for vehicular traffic at all development access drives and abutting street intersections.

21. Submit a License Agreement for landscaping and private improvements in the public right-of way (Puli Road alignment) prior to the issuance of permits for these improvements. The applicant must carry an insurance policy for the term of the License Agreement and add the City of Las Vegas as an additionally insured entity on this insurance policy. If requested by the City, the applicant shall remove property within the public right-of-way at the applicant's expense pursuant to the terms of the City's License Agreement. The installation and maintenance of all private improvements in the public right of way shall be the responsibility of the applicant and any successors in interest to the property and assigns pursuant to the terms of the License Agreement. Coordinate all requirements for the License Agreement with the Land Development Section of the Department of Building and Safety (702-229-4836).

22. A Master Traffic Impact Analysis must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, the submittal of any construction drawings, or the recordation of a map whichever may occur first. The Traffic Impact Analysis shall include a pedestrian circulation/access plan to identify nearby pedestrian attractors and recommend measures to accommodate pedestrians, such as but not limited to pedestrian access, crosswalk, pedestrian activated flashers and temporary sidewalks. Comply with the recommendations of the approved update to the Traffic Impact Analysis prior to occupancy of the site. Phased compliance will be allowed if recommended by the approved Traffic Impact Analysis. No recommendation of the approved Traffic Impact Analysis, nor compliance therewith, shall be deemed to modify or eliminate any condition of approval imposed by the Planning Commission or the City Council on the development of this site.

23. A Master Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the issuance of any building or grading permits, submittal of any construction drawings, or the recordation of a map, whichever may occur first. Provide and improve all drainage ways recommended in the approved drainage plan/study. The developer of this site shall be responsible to construct such neighborhood or local drainage facility improvements as are recommended by the City of Las Vegas Neighborhood Drainage Studies and approved Drainage Plan/Study concurrent with development of this site.

24. The approval of all Public Works related improvements shown on this Tentative Map is in concept only. Cross Sections provided may be used in construction provided that their uses in roadway designs are acceptable to the Department of Public Works. Specific design and construction details relating to size, type and/or alignment of improvements, including but not limited to street, sewer and drainage improvements, shall be resolved prior to approval of the construction plans by the City. Roadway locations and parcel entries are schematic and final studies and engineering improvements designs. Geometric design of Parcel entry points must be approved through the development review of each parcel.

The Notice of Final Action was filed with the Las Vegas City Clerk on April 16, 2020.

Sincerely,

Robert Summerfield

Robert Summerfield, AICP
Director
Department of Planning

RTS:PL:clb

cc: Ms. Chelsea Jensen
Slater Hanifan Group
5740 South Arville Street, Suite #216
Las Vegas, Nevada 89118

LAS VEGAS CITY COUNCIL
CAROLYN G. GOODMAN
Mayor
MICHELE FIORE
Mayor Pro Tem
STAVROS S. ANTHONY
CEDRIC CREAR
BRIAN KNUDSEN
VICTORIA SEAMAN
OLIVIA DÍAZ

SCOTT D. ADAMS
City Manager

DEPARTMENT OF PLANNING
ROBERT SUMMERFIELD
DIRECTOR

DEVELOPMENT SERVICES CENTER
333 N. RANCHO DRIVE
3RD FLOOR
LAS VEGAS, NV 89106
702.229.6301 | VOICE
702.474.7463 | FAX
711 | TTY

cityoflasvegas
lasvegasnevada.gov

April 16, 2020

Mr. Chris Armstrong
190 Octane FT Partners, LLC
11411 Southern Highlands Parkway, Suite #300
Las Vegas, Nevada 89141

RE: VAC-78242 [PRJ-77997] - VACATION RELATED TO GPA-78033, ZON-78241 AND TMP-78365
CITY COUNCIL MEETING OF APRIL 15, 2020

Dear Mr. Armstrong:

The City Council at a regular meeting held on April 15, 2020 voted to ***APPROVE*** your request for a Petition to Vacate Bureau of Land Management right-of-way grants generally located on the west side of Puli Road between Farm Road and Tropical Parkway, Ward 6 (Fiore) [PRJ-77997].

This approval is subject to the following conditions:

1. The limits of this Petition of Vacation shall be portions of Bureau of Land Management (BLM) Right-of-Way Grant N-77772 and portions of BLM Patent Reservation N-96824 located on the west side of Puli Road between Farm Road and Tropical Parkway as submitted on the site plan date stamped January 16, 2020.

2. This Order of Relinquishment shall record immediately prior to and concurrent with a mapping action that subdivides this site.

3. The Order of Relinquishment shall be modified to reserve any easements required for future public infrastructure (sewer and drainage).

4. A Drainage Plan and Technical Drainage Study must be submitted to and approved by the Department of Public Works prior to the recordation of the Order of Relinquishment for this application. Appropriate drainage easements shall be reserved if recommended by the approved Drainage Plan/Study. The drainage study required by TMP-78365 may be used to satisfy this requirement provided that it addresses the area to be vacated.

5. All public improvements, if any, adjacent to and in conflict with this vacation application are to be modified, as necessary, at the applicant's expense prior to the recordation of an Order of Relinquishment.

6. Reservation of easements for the facilities of the various utility companies together with reasonable ingress thereto and egress there from shall be provided if required.

7. All development shall be in conformance with code requirements and design standards of all City Departments.

8. The Order of Relinquishment of Interest shall not be recorded until all of the conditions of approval have been met provided, however, the conditions requiring modification of public improvements may be fulfilled for purposes of recordation by providing sufficient security for the performance thereof in accordance with the Subdivision Ordinance of the City of Las Vegas. City Staff is empowered to modify this application if necessary because of technical concerns or because of other related review actions as long as current City right-of-way requirements are still complied with and the intent of the vacation application is not changed. If applicable, a five foot wide easement for public streetlight and fire hydrant purposes shall be retained on all vacation actions abutting public street corridors that will remain dedicated and available for public use. Also, if applicable and where needed, public easement corridors or other easements that would/should cross any right-of-way being vacated must be retained.

9. If the Order of Relinquishment of Interest is not recorded within one (1) year after approval by the City of Las Vegas or an Extension of Time is not granted by the Planning Director, then approval will terminate and a new petition must be submitted.

The Notice of Final Action was filed with the Las Vegas City Clerk on April 16, 2020.

Sincerely,

Robert Summerfield

Robert Summerfield, AICP
Director
Department of Planning

RTS:PL:clb

cc: Ms. Chelsea Jensen
Slater Hanifan Group
5740 South Arville Street, Suite #216
Las Vegas, Nevada 89118

V

LAS VEGAS CITY COUNCIL

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April 16, 2020

Mr. Chris Armstrong
190 Octane FT Partners, LLC
11411 Southern Highlands Parkway, Suite # 300
Las Vegas, Nevada 89141

RE: ZON-78241 [PRJ-77997] - REZONING RELATED TO GPA-78033, VAC-78242 AND TMP-78365
CITY COUNCIL MEETING OF APRIL 15, 2020

Dear Mr. Armstrong:

The City Council at a regular meeting held on April 15, 2020 voted to ***APPROVE*** your request for a Rezoning FROM: U (UNDEVELOPED) [DR (DESERT RURAL DENSITY RESIDENTIAL) GENERAL PLAN DESIGNATION] AND C-V (CIVIC) TO: PD (PLANNED DEVELOPMENT) on 275.80 acres on the west side of Puli Road between Farm Road and Tropical Parkway (portions of APNs 126-26-000-001, 126-23-000-003 and 126-14-000-003), Ward 6 (Fiore) [PRJ-77997].

The Notice of Final Action was filed with the Las Vegas City Clerk on April 16, 2020.

Sincerely,

Robert Summerfield

Robert Summerfield, AICP
Director
Department of Planning

RTS:PL:clb

cc: Ms. Chelsea Jensen
Slater Hanifan Group
5740 South Arville Street, Suite #216
Las Vegas, Nevada 89118

APPENDIX D

FlowMaster Computations

Centennial Parkway

Worksheet for Section CE1 - North Half min%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Discharge	9.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.44	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	2.38	ft²
Wetted Perimeter	15.49	ft
Hydraulic Radius	0.15	ft

Worksheet for Section CE1 - North Half min%

Results

Top Width		15.00	ft
Normal Depth		0.44	ft
Critical Depth		0.51	ft
Critical Slope		0.00674	ft/ft
Velocity		3.77	ft/s
Velocity Head		0.22	ft
Specific Energy		0.66	ft
Froude Number		1.67	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.44	ft
Critical Depth	0.51	ft
Channel Slope	2.00	%
Critical Slope	0.00674	ft/ft

Cross Section for Section CE1 - North Half min%

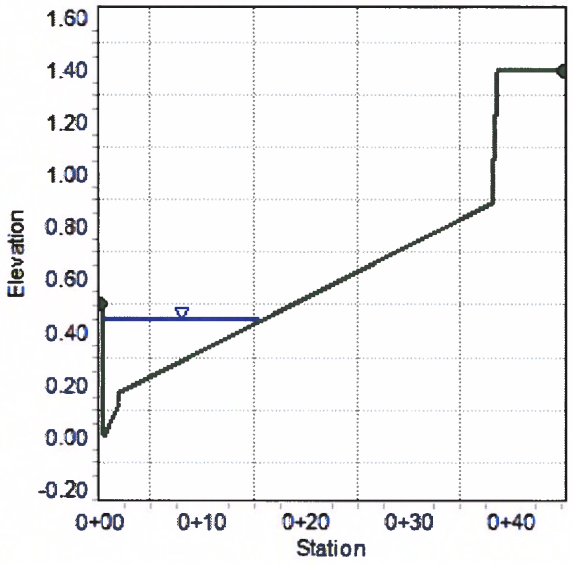
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Normal Depth	0.44	ft
Discharge	9.00	ft³/s

Cross Section Image



Worksheet for Section CE1 - North Half max%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.50	%
Discharge	9.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.38	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	1.52	ft²
Wetted Perimeter	12.20	ft
Hydraulic Radius	0.12	ft

Worksheet for Section CE1 - North Half max%

Results

Top Width		11.78	ft
Normal Depth		0.38	ft
Critical Depth		0.51	ft
Critical Slope		0.00674	ft/ft
Velocity		5.91	ft/s
Velocity Head		0.54	ft
Specific Energy		0.92	ft
Froude Number		2.90	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.38	ft
Critical Depth	0.51	ft
Channel Slope	6.50	%
Critical Slope	0.00674	ft/ft

Cross Section for Section CE1 - North Half max%

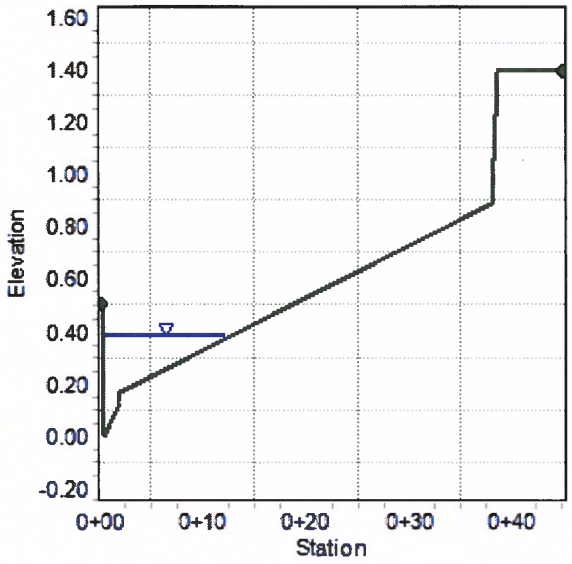
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.50	%
Normal Depth	0.38	ft
Discharge	9.00	ft³/s

Cross Section Image



Worksheet for Section CE1 - South Half min%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Discharge	4.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.35	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	1.28	ft²
Wetted Perimeter	11.12	ft
Hydraulic Radius	0.12	ft

Worksheet for Section CE1 - South Half min%

Results

Top Width		10.72	ft
Normal Depth		0.35	ft
Critical Depth		0.40	ft
Critical Slope		0.00748	ft/ft
Velocity		3.11	ft/s
Velocity Head		0.15	ft
Specific Energy		0.51	ft
Froude Number		1.59	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.35	ft
Critical Depth	0.40	ft
Channel Slope	2.00	%
Critical Slope	0.00748	ft/ft

Cross Section for Section CE1 - South Half min%

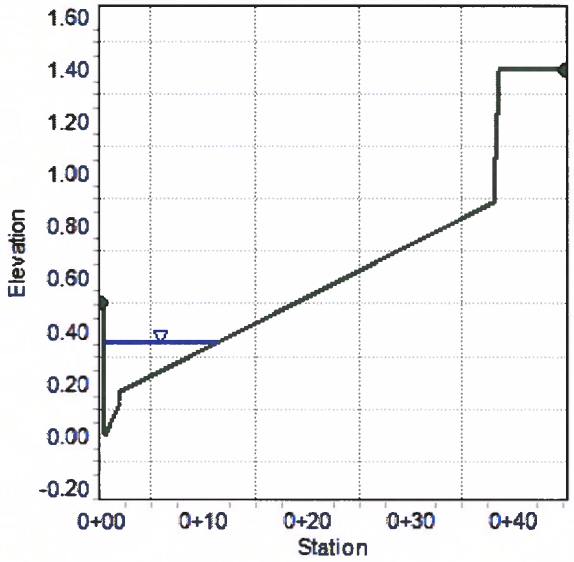
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Normal Depth	0.35	ft
Discharge	4.00	ft³/s

Cross Section Image



Worksheet for Section CE1 - South Half max%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.50	%
Discharge	4.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.30	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	0.81	ft²
Wetted Perimeter	8.58	ft
Hydraulic Radius	0.09	ft

Worksheet for Section CE1 - South Half max%

Results

Top Width		8.23	ft
Normal Depth		0.30	ft
Critical Depth		0.40	ft
Critical Slope		0.00748	ft/ft
Velocity		4.92	ft/s
Velocity Head		0.38	ft
Specific Energy		0.68	ft
Froude Number		2.76	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.30	ft
Critical Depth	0.40	ft
Channel Slope	6.50	%
Critical Slope	0.00748	ft/ft

Cross Section for Section CE1 - South Half max%

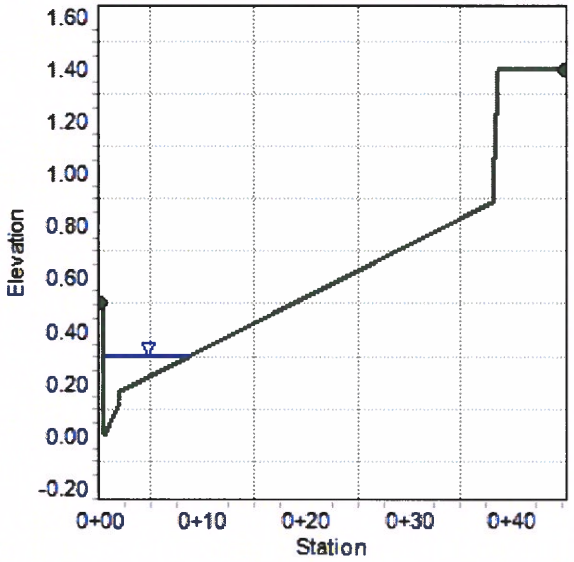
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.50	%
Normal Depth	0.30	ft
Discharge	4.00	ft³/s

Cross Section Image



Worksheet for Section CE2 - North Half min%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Discharge	45.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.70	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	8.08	ft²
Wetted Perimeter	29.23	ft
Hydraulic Radius	0.28	ft

Worksheet for Section CE2 - North Half min%

Results

Top Width		28.50	ft
Normal Depth		0.70	ft
Critical Depth		0.86	ft
Critical Slope		0.00540	ft/ft
Velocity		5.57	ft/s
Velocity Head		0.48	ft
Specific Energy		1.18	ft
Froude Number		1.84	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.70	ft
Critical Depth	0.86	ft
Channel Slope	2.00	%
Critical Slope	0.00540	ft/ft

Cross Section for Section CE2 - North Half min%

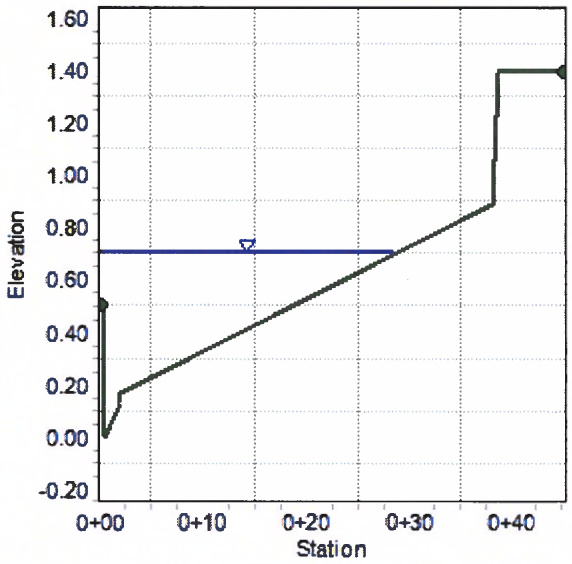
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Normal Depth	0.70	ft
Discharge	45.00	ft³/s

Cross Section Image



Worksheet for Section CE2 - North Half max%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.03	%
Discharge	45.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.59	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	5.34	ft²
Wetted Perimeter	23.83	ft
Hydraulic Radius	0.22	ft

Worksheet for Section CE2 - North Half max%

Results

Top Width		23.20	ft
Normal Depth		0.59	ft
Critical Depth		0.86	ft
Critical Slope		0.00540	ft/ft
Velocity		8.42	ft/s
Velocity Head		1.10	ft
Specific Energy		1.70	ft
Froude Number		3.10	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.59	ft
Critical Depth	0.86	ft
Channel Slope	6.03	%
Critical Slope	0.00540	ft/ft

Cross Section for Section CE2 - North Half max%

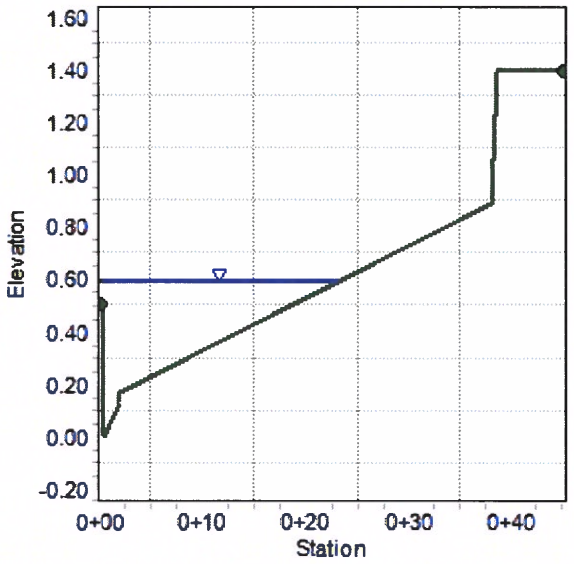
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.03	%
Normal Depth	0.59	ft
Discharge	45.00	ft³/s

Cross Section Image



Worksheet for Section CE2 - South Half min%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Discharge	11.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.47	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	2.78	ft²
Wetted Perimeter	16.77	ft
Hydraulic Radius	0.17	ft

Worksheet for Section CE2 - South Half min%

Results

Top Width		16.26	ft
Normal Depth		0.47	ft
Critical Depth		0.55	ft
Critical Slope		0.00655	ft/ft
Velocity		3.96	ft/s
Velocity Head		0.24	ft
Specific Energy		0.71	ft
Froude Number		1.69	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.47	ft
Critical Depth	0.55	ft
Channel Slope	2.00	%
Critical Slope	0.00655	ft/ft

Cross Section for Section CE2 - South Half min%

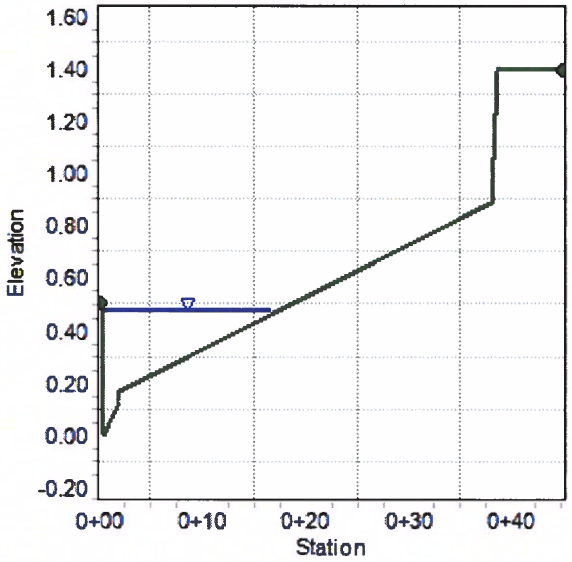
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.00	%
Normal Depth	0.47	ft
Discharge	11.00	ft³/s

Cross Section Image



Worksheet for Section CE2 - South Half max%

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.03	%
Discharge	11.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.40	ft
Elevation Range	0.00 to 1.39 ft	
Flow Area	1.83	ft²
Wetted Perimeter	13.45	ft
Hydraulic Radius	0.14	ft

Worksheet for Section CE2 - South Half max%

Results

Top Width		13.00	ft
Normal Depth		0.40	ft
Critical Depth		0.55	ft
Critical Slope		0.00655	ft/ft
Velocity		6.02	ft/s
Velocity Head		0.56	ft
Specific Energy		0.96	ft
Froude Number		2.83	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.40	ft
Critical Depth	0.55	ft
Channel Slope	6.03	%
Critical Slope	0.00655	ft/ft

Cross Section for Section CE2 - South Half max%

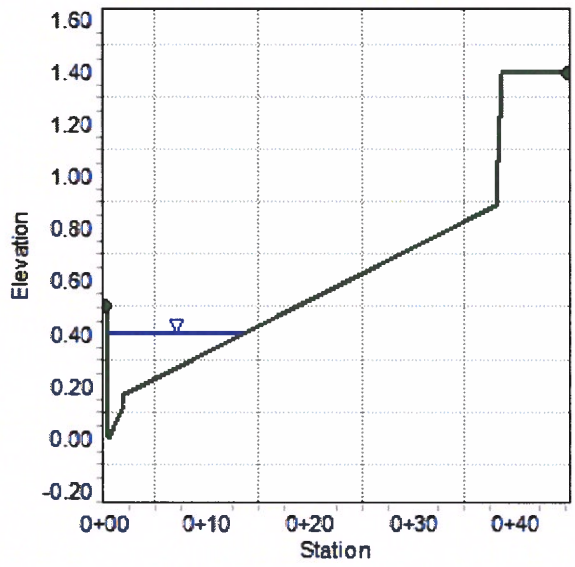
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	6.03	%
Normal Depth	0.40	ft
Discharge	11.00	ft³/s

Cross Section Image



Worksheet for Centennial 10-year Dry Lane Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	2.00	%
Normal Depth	0.65	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+38.00	0.89
0+38.50	1.39
0+45.00	1.39

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+45.00, 1.39)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Discharge	35.18	ft^3/s
Elevation Range	0.00 to 1.39 ft	
Flow Area	6.72	ft^2
Wetted Perimeter	26.68	ft
Hydraulic Radius	0.25	ft

Worksheet for Centennial 10-year Dry Lane Capacity

Results

Top Width		26.00	ft
Normal Depth		0.65	ft
Critical Depth		0.79	ft
Critical Slope		0.00559	ft/ft
Velocity		5.24	ft/s
Velocity Head		0.43	ft
Specific Energy		1.08	ft
Froude Number		1.82	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.65	ft
Critical Depth	0.79	ft
Channel Slope	2.00	%
Critical Slope	0.00559	ft/ft

Cross Section for Centennial 10-year Dry Lane Capacity

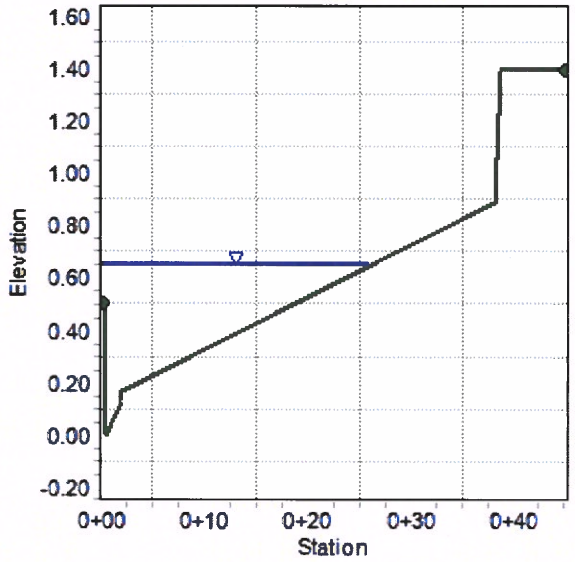
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	2.00	%
Normal Depth	0.65	ft
Discharge	35.18	ft³/s

Cross Section Image



Skye Hills Drive

Worksheet for Section SH - Street D in Skye Hills Dr (min%)

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	1.00	%
Discharge	31.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+22.00	0.43
0+42.00	0.17
0+42.00	0.13
0+43.50	0.00
0+43.50	0.48
0+44.00	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+44.00, 0.50)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.50	ft
Elevation Range	0.00 to 0.50 ft	

Worksheet for Section SH - Street D in Skye Hills Dr (min%)

Results

Flow Area		9.46	ft²
Wetted Perimeter		45.06	ft
Hydraulic Radius		0.21	ft
Top Width		44.00	ft
Normal Depth		0.50	ft
Critical Depth		0.54	ft
Critical Slope		0.00613	ft/ft
Velocity		3.28	ft/s
Velocity Head		0.17	ft
Specific Energy		0.67	ft
Froude Number		1.25	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.54	ft
Channel Slope	1.00	%
Critical Slope	0.00613	ft/ft

Cross Section for Section SH - Street D in Skye Hills Dr (min%)

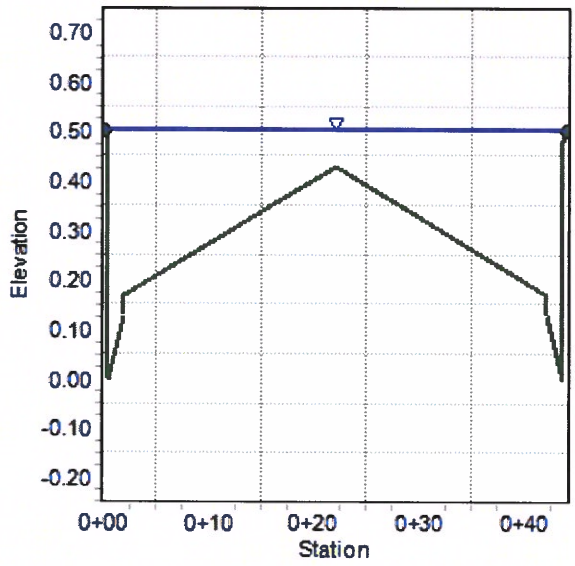
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	1.00	%
Normal Depth	0.50	ft
Discharge	31.00	ft^3/s

Cross Section Image



Worksheet for Section SH - Street D in Skye Hills Dr (max%)

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.75	%
Discharge	31.00	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00.00	0.50
0+00.50	0.48
0+00.50	0.00
0+02.00	0.13
0+02.00	0.17
0+22.00	0.43
0+42.00	0.17
0+42.00	0.13
0+43.50	0.00
0+43.50	0.48
0+44.00	0.50

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00.00, 0.50)	(0+44.00, 0.50)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.44	ft
Elevation Range	0.00 to 0.50 ft	

Worksheet for Section SH - Street D in Skye Hills Dr (max%)

Results

Flow Area		6.90	ft²
Wetted Perimeter		43.98	ft
Hydraulic Radius		0.16	ft
Top Width		43.00	ft
Normal Depth		0.44	ft
Critical Depth		0.54	ft
Critical Slope		0.00613	ft/ft
Velocity		4.49	ft/s
Velocity Head		0.31	ft
Specific Energy		0.76	ft
Froude Number		1.98	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.44	ft
Critical Depth	0.54	ft
Channel Slope	2.75	%
Critical Slope	0.00613	ft/ft

Cross Section for Section SH - Street D in Skye Hills Dr (max%)

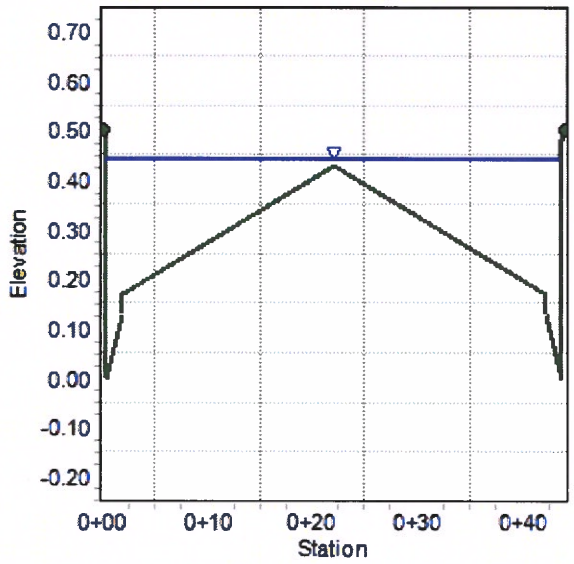
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	2.75	%
Normal Depth	0.44	ft
Discharge	31.00	ft³/s

Cross Section Image



APPENDIX E

Revised Storm Drain Computations

WSPGW Model

Centennial-Skye Hills Main

```
T1 OLY1923 BLM 270 INFRASTRUCTURE
T2 CENTENNIAL PARKWAY THEN PULI ALIGNMENT
T3 FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT
SO   3364.51 2901.27  86                              0.000
R    3453.26 2903.32  86      .015                                        15.0
R    3454.26 2903.35  86      .015                                        15.0
R    3455.26 2903.37  86      .015                                        15.0
R    3467.09 2903.61  86      .015
JX   3472.09 2903.71  86 54   .015   12.0           2904.56          51.0
R    3505.31 2904.38  86      .015
R    3540.78 2905.11  86      .015                                              1
JX   3545.78 2905.21  86 72   .015  166.0           2905.21          45.0
R    3558.07 2905.45  86      .015                                    15.0
R    3559.07 2905.47  86      .015                                    15.0
R    3560.07 2905.49  86      .015                                    15.0   1
R    3578.00 2905.85  86      .015                                           1
WX   3578.00 2905.85  55      .015
R    3584.02 2907.15  55      .015                                           1
JX   3589.02 2907.39  55 36   .015   25.0           2910.84          52.0
R    3640.17 2910.11  55      .015                                           1
JX   3645.17 2911.11  60 24   .013   22.0           2912.37          46.0
R    3700.00 2913.69  60      .013                                           1
R    3825.22 2918.70  60      .013                                           1
JX   3830.22 2918.90  60 36 18.013   33.0      0.01 2922.08 2922.16  41.0 60.0
R    4145.33 2931.51  60      .013                                           1
R    4455.42 2943.91  60      .013                                           1
JX   4460.42 2944.11  60 18 18.013    0.01     0.01 2953.21 2953.21  48.0 61.0
R    4776.25 2956.74  60      .013                                    15.0   1
R    4777.25 2956.78  60      .013                                    15.0   1
R    4778.25 2956.82  60      .013                                    15.0   1
R    4779.25 2956.86  60      .013                                     5.0   1
JX   4780.25 2956.90  60 54   .013  241.0           2957.40          50.0
R    4844.76 2966.10  60      .013                                    15.0
R    4845.76 2966.24  60      .013                                    15.0
R    4846.76 2966.39  60      .013                                     9.0   1
JX   4847.76 2966.53  60 24   .013    0.01          2970.00          90.0
R    5203.12 2973.26  60      .013                                           1
JX   5208.12 2973.35  60 24   .013    0.01          2975.50          46.0
R    5358.39 2975.68  60      .013
JX   5363.39 2976.18  54 54   .013   61.0           2976.18          54.0
R    5500.92 2977.76  54      .013                                           1
JX   5505.92 2977.82  54 18 18.013    0.01     0.01 2982.96 2983.26  46.0 50.0
R    5799.38 2980.75  54      .013                                           1
JX   5804.38 2980.80  54 24   .013    0.01          2984.50          45.0
R    6111.57 2986.95  54      .013                                           1
JX   6116.57 2987.05  54 18 18.013    0.01     0.01 2992.10 2992.10  53.0 53.0
R    6423.76 2990.12  54      .013                                           1
JX   6428.76 2990.17  54 24   .013    0.01          2995.29          46.0
R    6653.28 2993.69  54      .013                                           1
JX   6658.28 2993.77  54 30   .013   46.0           2996.27          90.0
R    6883.28 2997.17  54      .013                                    15.0
```

```
                                                                                CE-SH.WSW
R    6883.78 2997.18  54      .013                                                15.0
R    6884.28 2997.19  54      .013                                                15.0
R    6884.78 2997.19  54      .013                                                15.0
R    6885.28 2997.20  54      .013                                                15.0
R    6885.78 2997.21  54      .013                                                15.0   1
JX   6888.28 2998.12   5      .013
R    6992.30 3002.65   5      .013                                                      1
SH   6992.30 3002.65   5
CD  18  4   1   0.000   1.500    0.000 0.000 0.000  0.0000.00  0.00
CD  24  4   1   0.000   2.000    0.000 0.000 0.000  0.0000.00  0.00
CD  30  4   1   0.000   2.500    0.000 0.000 0.000  0.0000.00  0.00
CD  36  4   1   0.000   3.000    0.000 0.000 0.000  0.0000.00  0.00
CD  48  4   1   0.000   4.000    0.000 0.000 0.000  0.0000.00  0.00
CD  54  4   1   0.000   4.500    0.000 0.000 0.000  0.0000.00  0.00
CD  60  4   1   0.000   5.000    0.000 0.000 0.000  0.0000.00  0.00
CD  66  4   1   0.000   5.500    0.000 0.000 0.000  0.0000.00  0.00
CD  72  4   1   0.000   6.000    0.000 0.000 0.000  0.0000.00  0.00
CD  55  3   0   0.000   5.000    5.000 0.000 0.000  0.0000.00  0.00
CD  86  3   0   0.000   6.000    8.000 0.000 0.000  0.0000.00  0.00
CD   5  6   0     0.0     0.0      0.0     0.0     0.0     0.0    0.0
PTS  516  0.00   1.79   0.22   1.10   0.81   0.54   1.85   0.11   2.83   0.00
PTS       3.81   0.11   4.85   0.54   5.45   1.10   5.66   1.79   5.45   2.48
PTS       4.85   3.05   3.81   3.47   2.83   3.58   1.85   3.47   0.81   3.05
PTS       0.22   2.48   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
Q           155.000
```

FILE: CE-SH.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 7- 6-2020 Time: 4:34:11

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	18	4	1		1.500														
CD	24	4	1		2.000														
CD	30	4	1		2.500														
CD	36	4	1		3.000														
CD	48	4	1		4.000														
CD	54	4	1		4.500														
CD	60	4	1		5.000														
CD	66	4	1		5.500														
CD	72	4	1		6.000														
CD	55	3	0	.000	5.000	5.000	.000	.000	.00										
CD	86	3	0	.000	6.000	8.000	.000	.000	.00										
CD	5	6	0	.000															

FILE: W S P G W - EDIT LISTING - Version 14.10 Date: 7- 6-2020 Time: 4:34:11

WATER SURFACE PROFILE - CROSS SECTION POINT LISTING PAGE 2

CARD CODE	SECT NO	NO OF POINTS	X(1) , Y(1) X(8) , Y(8)	X(2) , Y(2) X(9) , Y(9)	X(3) , Y(3) X(10) ,Y(10)	X(4) , Y(4) X(11) ,Y(11)	X(5) , Y(5) X(N) , Y(N)	X(6) , Y(6) X(N+1),Y(N+1)	X(7) , Y(7) X(35) ,Y(35)						
PTS	5	16	.000	1.790	.220	1.100	.810	.540	1.850	.110	2.830	.000	3.810	.110	4.850	.540
PTS			5.450	1.100	5.660	1.790	5.450	2.480	4.850	3.050	3.810	3.470	2.830	3.580	1.850	3.470
PTS			.810	3.050	.220	2.480										

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

OLY1923 BLM 270 INFRASTRUCTURE

HEADING LINE NO 2 IS -

CENTENNIAL PARKWAY THEN PULI ALIGNMENT

HEADING LINE NO 3 IS -

FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	3364.510	2901.270	86	.000

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3453.260	2903.320	86	.015	.000	.000	15.000	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3454.260	2903.350	86	.015	.000	.000	15.000	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3455.260	2903.370	86	.015	.000	.000	15.000	0

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3467.090	2903.610	86	.015	.000	.000	.000	0

ELEMENT NO 6 IS A JUNCTION * * * * * * * *

```
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3472.090 2903.710   86    54     0   .015    12.000      .000  2904.560      .000  51.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO   7 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3505.310 2904.380   86               .015                        .000     .000      .000     0
ELEMENT NO   8 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3540.780 2905.110   86               .015                        .000     .000      .000     1
ELEMENT NO   9 IS A JUNCTION         *         *     *     *           *                     *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3545.780 2905.210   86    72     0   .015   166.000      .000  2905.210      .000  45.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  10 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3558.070 2905.450   86               .015                        .000     .000    15.000     0
                                                 W S P G W                                                    PAGE NO   3
                      WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  11 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3559.070 2905.470   86               .015                        .000     .000    15.000     0
ELEMENT NO  12 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3560.070 2905.490   86               .015                        .000     .000    15.000     1
ELEMENT NO  13 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3578.000 2905.850   86               .015                        .000     .000      .000     1
ELEMENT NO  14 IS A  WALL  EXIT                  *
                U/S DATA   STATION    INVERT  SECT
                           3578.000 2905.850   55
ELEMENT NO  15 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3584.020 2907.150   55               .015                        .000     .000      .000     1
ELEMENT NO  16 IS A JUNCTION         *         *     *     *           *                     *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3589.020 2907.390   55    36     0   .015    25.000      .000  2910.840      .000  52.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  17 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3640.170 2910.110   55               .015                        .000     .000      .000     1
ELEMENT NO  18 IS A JUNCTION         *         *     *     *           *                     *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3645.170 2911.110   60    24     0   .013    22.000      .000  2912.370      .000  46.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  19 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT               N                       RADIUS    ANGLE     ANG PT  MAN H
                           3700.000 2913.690   60               .013                        .000     .000      .000     1
```

```
ELEMENT NO  20 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           3825.220 2918.700   60              .013                         .000     .000      .000     1
                                                W S P G W                                                    PAGE NO   4
                      WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  21 IS A JUNCTION         *         *     *     *                *                 *              *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           3830.220 2918.900   60    36    18   .013    33.000      .010  2922.080  2922.160  41.000   60.000
                                                                                        RADIUS    ANGLE
                                                                                          .000     .000
ELEMENT NO  22 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4145.330 2931.510   60              .013                         .000     .000      .000     1
ELEMENT NO  23 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4455.420 2943.910   60              .013                         .000     .000      .000     1
ELEMENT NO  24 IS A JUNCTION         *         *     *     *                *                 *              *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           4460.420 2944.110   60    18    18   .013      .010      .010  2953.210  2953.210  48.000   61.000
                                                                                        RADIUS    ANGLE
                                                                                          .000     .000
ELEMENT NO  25 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4776.250 2956.740   60              .013                         .000     .000    15.000     1
ELEMENT NO  26 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4777.250 2956.780   60              .013                         .000     .000    15.000     1
ELEMENT NO  27 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4778.250 2956.820   60              .013                         .000     .000    15.000     1
ELEMENT NO  28 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4779.250 2956.860   60              .013                         .000     .000     5.000     1
ELEMENT NO  29 IS A JUNCTION         *         *     *     *                *                 *              *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                           4780.250 2956.900   60    54     0   .013   241.000      .000  2957.400       .000  50.000     .000
                                                                                        RADIUS    ANGLE
                                                                                          .000     .000
                                                W S P G W                                                    PAGE NO   5
                      WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  30 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4844.760 2966.100   60              .013                         .000     .000    15.000     0
ELEMENT NO  31 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4845.760 2966.240   60              .013                         .000     .000    15.000     0
ELEMENT NO  32 IS A REACH            *         *     *
                U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                           4846.760 2966.390   60              .013                         .000     .000     9.000     1
ELEMENT NO  33 IS A JUNCTION         *         *     *     *                *                 *              *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
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                          4847.760 2966.530   60    24     0   .013      .010      .000  2970.000      .000  90.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  34 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            5203.120 2973.260   60                .013                       .000     .000      .000     1
ELEMENT NO  35 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            5208.120 2973.350   60    24     0   .013      .010      .000  2975.500      .000  46.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  36 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            5358.390 2975.680   60                .013                       .000     .000      .000     0
ELEMENT NO  37 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            5363.390 2976.180   54    54     0   .013   61.000      .000  2976.180      .000  54.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
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ELEMENT NO  38 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            5500.920 2977.760   54                .013                       .000     .000      .000     1
ELEMENT NO  39 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            5505.920 2977.820   54    18    18   .013      .010      .010  2982.960  2983.260  46.000   50.000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  40 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            5799.380 2980.750   54                .013                       .000     .000      .000     1
ELEMENT NO  41 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            5804.380 2980.800   54    24     0   .013      .010      .000  2984.500      .000  45.000     .000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  42 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            6111.570 2986.950   54                .013                       .000     .000      .000     1
ELEMENT NO  43 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            6116.570 2987.050   54    18    18   .013      .010      .010  2992.100  2992.100  53.000   53.000
                                                                                          RADIUS    ANGLE
                                                                                            .000    .000
ELEMENT NO  44 IS A REACH          *         *     *
                  U/S DATA  STATION    INVERT  SECT               N                        RADIUS    ANGLE     ANG PT  MAN H
                            6423.760 2990.120   54                .013                       .000     .000      .000     1
ELEMENT NO  45 IS A JUNCTION       *         *     *     *                 *                  *                 *
                  U/S DATA  STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                            6428.760 2990.170   54    24     0   .013      .010      .000  2995.290      .000  46.000     .000
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                                                                                                RADIUS    ANGLE
                                                                                                  .000    .000
                                                W S P G W                                                                PAGE NO   7
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  46 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6653.280 2993.690   54               .013                          .000     .000      .000     1
ELEMENT NO  47 IS A JUNCTION             *         *     *     *               *                 *                *
                  U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                             6658.280 2993.770   54    30     0   .013    46.000      .000  2996.270      .000  90.000     .000
                                                                                                RADIUS    ANGLE
                                                                                                  .000    .000
ELEMENT NO  48 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6883.280 2997.170   54               .013                          .000     .000    15.000     0
ELEMENT NO  49 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6883.780 2997.180   54               .013                          .000     .000    15.000     0
ELEMENT NO  50 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6884.280 2997.190   54               .013                          .000     .000    15.000     0
ELEMENT NO  51 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6884.780 2997.190   54               .013                          .000     .000    15.000     0
ELEMENT NO  52 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6885.280 2997.200   54               .013                          .000     .000    15.000     0
ELEMENT NO  53 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6885.780 2997.210   54               .013                          .000     .000    15.000     1
ELEMENT NO  54 IS A JUNCTION             *         *     *     *               *                 *                *
                  U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3  PHI 4
                             6888.280 2998.120    5     0     0   .013      .000      .000      .000      .000    .000     .000
                                                                                                RADIUS    ANGLE
                                                                                                  .000    .000
ELEMENT NO  55 IS A REACH                *         *     *
                  U/S DATA   STATION    INVERT  SECT               N                          RADIUS    ANGLE     ANG PT  MAN H
                             6992.300 3002.650    5               .013                          .000     .000      .000     1
                                                W S P G W                                                                PAGE NO   8
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  56 IS A SYSTEM HEADWORKS                *                     *
                  U/S DATA   STATION    INVERT  SECT                                  W S ELEV
                             6992.300 3002.650    5                                     .000
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Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time: 4:34:14

OLY1923 BLM 270 INFRASTRUCTURE

CENTENNIAL PARKWAY THEN PULI ALIGNMENT

FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3364.510	2901.270	4.116	2905.386	761.11	23.11	8.29	2913.68	.00	6.00	8.00	6.000	8.000	.00	0 .0
88.750	.0231					.0207	1.84	4.12	2.01	3.99	.015	.00	.00	BOX
3453.260	2903.320	4.188	2907.509	761.11	22.71	8.01	2915.52	.00	6.00	8.00	6.000	8.000	.00	0 .0
1.000	.0300					.0202	.02	4.19	1.96	3.61	.015	.00	.00	BOX
3454.260	2903.350	4.192	2907.542	761.11	22.70	8.00	2915.54	.00	6.00	8.00	6.000	8.000	.00	0 .0
1.000	.0200					.0202	.02	4.19	1.95	4.21	.015	.00	.00	BOX
3455.260	2903.370	4.192	2907.562	761.11	22.70	8.00	2915.56	.00	6.00	8.00	6.000	8.000	.00	0 .0
11.830	.0203					.0202	.24	4.19	1.95	4.18	.015	.00	.00	BOX
3467.090	2903.610	4.192	2907.802	761.11	22.70	8.00	2915.80	.00	6.00	8.00	6.000	8.000	.00	0 .0
JUNCT STR	.0200					.0210	.11	4.19	1.95		.015	.00	.00	BOX
3472.090	2903.710	4.019	2907.729	749.11	23.30	8.43	2916.16	.00	6.00	8.00	6.000	8.000	.00	0 .0
33.220	.0202					.0220	.73	4.02	2.05	4.14	.015	.00	.00	BOX
3505.310	2904.380	3.999	2908.379	749.11	23.41	8.51	2916.89	.00	6.00	8.00	6.000	8.000	.00	0 .0
35.470	.0206					.0223	.79	4.00	2.06	4.11	.015	.00	.00	BOX
3540.780	2905.110	3.981	2909.091	749.11	23.52	8.59	2917.68	.00	6.00	8.00	6.000	8.000	.00	0 .0
JUNCT STR	.0200					.0385	.19	3.98	2.08		.015	.00	.00	BOX
3545.780	2905.210	2.402	2907.612	583.11	30.34	14.30	2921.91	.00	5.49	8.00	6.000	8.000	.00	0 .0
12.290	.0195					.0559	.69	2.40	3.45	3.48	.015	.00	.00	BOX

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3558.070	2905.450	2.362	2907.812	583.11	30.86	14.79	2922.60	.00	5.49	8.00	6.000	8.000	.00	0 .0
1.000	.0200					.0574	.06	2.36	3.54	3.45	.015	.00	.00	BOX
3559.070	2905.470	2.359	2907.829	583.11	30.90	14.83	2922.66	.00	5.49	8.00	6.000	8.000	.00	0 .0
1.000	.0200					.0576	.06	2.36	3.55	3.45	.015	.00	.00	BOX
3560.070	2905.490	2.355	2907.845	583.11	30.94	14.87	2922.71	.00	5.49	8.00	6.000	8.000	.00	0 .0
17.930	.0201					.0599	1.07	2.36	3.55	3.44	.015	.00	.00	BOX
3578.000	2905.850	2.296	2908.146	583.11	31.74	15.64	2923.79	.00	5.49	8.00	6.000	8.000	.00	0 .0
WALL	EXIT													
3578.000	2905.850	3.762	2909.612	583.11	31.00	14.92	2924.53	.00	5.00	5.00	5.000	5.000	.00	0 .0
6.020	.2159					.0543	.33	3.76	2.82	2.26	.015	.00	.00	BOX
3584.020	2907.150	3.912	2911.062	583.11	29.81	13.80	2924.86	.00	5.00	5.00	5.000	5.000	.00	0 .0
JUNCT STR	.0480					.0527	.26	3.91	2.66		.015	.00	.00	BOX
3589.020	2907.390	3.714	2911.104	558.11	30.05	14.03	2925.13	.00	5.00	5.00	5.000	5.000	.00	0 .0
51.150	.0532					.0540	2.76	3.71	2.75	3.73	.015	.00	.00	BOX
3640.170	2910.110	3.708	2913.818	558.11	30.11	14.07	2927.89	.00	5.00	5.00	5.000	5.000	.00	0 .0
JUNCT STR	.2000					.0396	.20	3.71	2.76		.013	.00	.00	BOX

---------- WARNING - Junction Analysis - Change in Channel Type ----------

Program Package Serial Number: 7189
WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time: 4:34:14

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip

L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3645.170	2911.110	4.353	2915.463	536.11	29.55	13.56	2929.02	.00	4.96	3.36	5.000	.000	.00	1 .0
54.830	.0471					.0380	2.08	4.35	2.24	3.89	.013	.00	.00	PIPE
3700.000	2913.690	4.490	2918.179	536.11	28.85	12.93	2931.10	.00	4.96	3.03	5.000	.000	.00	1 .0
125.220	.0400					.0370	4.64	4.49	2.05	4.24	.013	.00	.00	PIPE
3825.220	2918.700	4.620	2923.320	536.11	28.29	12.43	2935.75	.00	4.96	2.65	5.000	.000	.00	1 .0
JUNCT STR	.0400					.0382	.19	4.62	1.86		.013	.00	.00	PIPE
3830.220	2918.900	3.969	2922.869	503.10	30.10	14.07	2936.94	.00	4.95	4.05	5.000	.000	.00	1 .0
315.110	.0400					.0392	12.37	3.97	2.61	3.95	.013	.00	.00	PIPE
4145.330	2931.510	4.012	2935.522	503.10	29.79	13.78	2949.30	.00	4.95	3.98	5.000	.000	.00	1 .0
310.090	.0400					.0376	11.65	4.01	2.55	3.95	.013	.00	.00	PIPE
4455.420	2943.910	4.161	2948.071	503.10	28.81	12.89	2960.96	.00	4.95	3.74	5.000	.000	.00	1 .0
JUNCT STR	.0400					.0363	.18	4.16	2.35		.013	.00	.00	PIPE
4460.420	2944.110	4.165	2948.275	503.08	28.79	12.87	2961.14	.00	4.95	3.73	5.000	.000	.00	1 .0
76.478	.0400					.0358	2.74	4.16	2.34	3.95	.013	.00	.00	PIPE
4536.898	2947.168	4.240	2951.408	503.08	28.34	12.47	2963.88	.00	4.95	3.59	5.000	.000	.00	1 .0
146.715	.0400					.0340	5.00	4.24	2.25	3.95	.013	.00	.00	PIPE
4683.613	2953.035	4.502	2957.537	503.08	27.02	11.34	2968.87	.00	4.95	2.99	5.000	.000	.00	1 .0
92.637	.0400					.0331	3.06	4.50	1.91	3.95	.013	.00	.00	PIPE

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WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time: 4:34:14

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch

4776.250	2956.740	4.891	2961.631	503.08	25.76	10.31	2971.94	.00	4.95	1.46	5.000	.000	.00	1 .0
1.000	.0400					.0334	.03	4.89	1.24	3.95	.013	.00	.00	PIPE
4777.250	2956.780	4.903	2961.683	503.08	25.74	10.29	2971.97	.00	4.95	1.38	5.000	.000	.00	1 .0
1.000	.0400					.0336	.03	4.90	1.20	3.95	.013	.00	.00	PIPE
4778.250	2956.820	4.919	2961.739	503.08	25.71	10.27	2972.00	.00	4.95	1.26	5.000	.000	.00	1 .0
1.000	.0400					.0341	.03	4.92	1.15	3.95	.013	.00	.00	PIPE
4779.250	2956.860	4.954	2961.814	503.08	25.66	10.22	2972.04	.00	4.95	.95	5.000	.000	.00	1 .0
JUNCT STR	.0398					.0223	.02	4.95	1.00		.013	.00	.00	PIPE
4780.250	2956.900	16.117	2973.017	262.08	13.35	2.77	2975.78	.00	4.49	.00	5.000	.000	.00	1 .0
64.510	.1426					.0101	.65	16.12	.00	1.76	.013	.00	.00	PIPE
4844.760	2966.100	7.707	2973.807	262.08	13.35	2.77	2976.57	.00	4.49	.00	5.000	.000	.00	1 .0
1.000	.1399					.0101	.01	7.71	.00	1.77	.013	.00	.00	PIPE
4845.760	2966.240	7.714	2973.954	262.08	13.35	2.77	2976.72	.00	4.49	.00	5.000	.000	.00	1 .0
1.000	.1499					.0101	.01	7.71	.00	1.74	.013	.00	.00	PIPE
4846.760	2966.390	7.795	2974.185	262.08	13.35	2.77	2976.95	.00	4.49	.00	5.000	.000	.00	1 .0
JUNCT STR	.1401					.0101	.01	7.79	.00		.013	.00	.00	PIPE
4847.760	2966.530	7.665	2974.195	262.07	13.35	2.77	2976.96	.00	4.49	.00	5.000	.000	.00	1 .0
231.193	.0189					.0101	2.34	7.67	.00	3.17	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time: 4:34:14

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
5078.953	2970.908	5.717	2976.626	262.07	13.35	2.77	2979.39	.00	4.49	.00	5.000	.000	.00	1 .0

HYDRAULIC JUMP

5078.953	2970.908	3.384	2974.292	262.07	18.53	5.33	2979.62	.00	4.49	4.68	5.000	.000	.00	1 .0
63.938	.0189					.0153	.98	3.38	1.88	3.17	.013	.00	.00	PIPE
5142.891	2972.119	3.474	2975.593	262.07	18.00	5.03	2980.62	.00	4.49	4.61	5.000	.000	.00	1 .0
60.229	.0189					.0139	.84	3.47	1.78	3.17	.013	.00	.00	PIPE
5203.120	2973.260	3.630	2976.890	262.07	17.16	4.57	2981.46	.00	4.49	4.46	5.000	.000	.00	1 .0
JUNCT STR	.0180					.0131	.07	3.63	1.63		.013	.00	.00	PIPE
5208.120	2973.350	3.645	2976.995	262.06	17.09	4.53	2981.53	.00	4.49	4.44	5.000	.000	.00	1 .0
4.533	.0155					.0130	.06	3.64	1.62	3.41	.013	.00	.00	PIPE
5212.653	2973.420	3.652	2977.072	262.06	17.06	4.52	2981.59	.00	4.49	4.44	5.000	.000	.00	1 .0
74.435	.0155					.0123	.92	3.65	1.62	3.41	.013	.00	.00	PIPE
5287.087	2974.574	3.824	2978.399	262.06	16.26	4.11	2982.51	.00	4.49	4.24	5.000	.000	.00	1 .0
41.155	.0155					.0111	.46	3.82	1.47	3.41	.013	.00	.00	PIPE
5328.242	2975.213	4.016	2979.228	262.06	15.50	3.73	2982.96	.00	4.49	3.98	5.000	.000	.00	1 .0
22.397	.0155					.0101	.23	4.02	1.33	3.41	.013	.00	.00	PIPE
5350.639	2975.560	4.233	2979.793	262.06	14.78	3.39	2983.19	.00	4.49	3.60	5.000	.000	.00	1 .0
7.751	.0155					.0093	.07	4.23	1.17	3.41	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time: 4:34:14

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
5358.390	2975.680	4.494	2980.174	262.06	14.09	3.08	2983.26	.00	4.49	3.02	5.000	.000	.00	1 .0
JUNCT STR	.1000					.0097	.05	4.49	1.00		.013	.00	.00	PIPE
5363.390	2976.180	5.868	2982.048	201.06	12.64	2.48	2984.53	.00	4.04	.00	4.500	.000	.00	1 .0

137.530	.0115					.0105	1.44	5.87	.00	3.51	.013	.00	.00	PIPE			
5500.920	2977.760	5.850	2983.610	201.06	12.64	2.48	2986.09	.00	4.04	.00	4.500	.000	.00	1	.0		
JUNCT STR	.0120					.0105	.05	5.85	.00		.013	.00	.00	PIPE			
5505.920	2977.820	5.843	2983.663	201.04	12.64	2.48	2986.14	.00	4.04	.00	4.500	.000	.00	1	.0		
293.460	.0100					.0105	3.07	5.84	.00	3.79	.013	.00	.00	PIPE			
5799.380	2980.750	6.104	2986.854	201.04	12.64	2.48	2989.34	.00	4.04	.00	4.500	.000	.00	1	.0		
JUNCT STR	.0100					.0105	.05	6.10	.00		.013	.00	.00	PIPE			
5804.380	2980.800	6.107	2986.907	201.03	12.64	2.48	2989.39	.00	4.04	.00	4.500	.000	.00	1	.0		
90.994	.0200					.0105	.95	6.11	.00	2.83	.013	.00	.00	PIPE			
5895.374	2982.622	5.271	2987.893	201.03	12.64	2.48	2990.37	.00	4.04	.00	4.500	.000	.00	1	.0		
HYDRAULIC JUMP																	
5895.374	2982.622	2.976	2985.598	201.03	18.01	5.04	2990.63	.00	4.04	4.26	4.500	.000	.00	1	.0		
53.494	.0200					.0170	.91	2.98	1.96	2.83	.013	.00	.00	PIPE			
5948.868	2983.693	3.022	2986.714	201.03	17.70	4.87	2991.58	.00	4.04	4.23	4.500	.000	.00	1	.0		
72.733	.0200					.0158	1.15	3.02	1.90	2.83	.013	.00	.00	PIPE			

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6021.602	2985.149	3.154	2988.303	201.03	16.88	4.42	2992.73	.00	4.04	4.12	4.500	.000	.00	1 .0
43.472	.0200					.0141	.61	3.15	1.75	2.83	.013	.00	.00	PIPE
6065.073	2986.019	3.298	2989.317	201.03	16.09	4.02	2993.34	.00	4.04	3.98	4.500	.000	.00	1 .0
28.189	.0200					.0126	.36	3.30	1.60	2.83	.013	.00	.00	PIPE

6093.263	2986.583	3.454	2990.038	201.03	15.35	3.66	2993.69	.00	4.04	3.80	4.500	.000	.00	1	.0	
18.307	.0200					.0113	.21	3.45	1.46	2.83	.013	.00	.00	PIPE		
6111.570	2986.950	3.628	2990.578	201.03	14.63	3.32	2993.90	.00	4.04	3.56	4.500	.000	.00	1	.0	
JUNCT STR	.0200					.0106	.05	3.63	1.31		.013	.00	.00	PIPE		
6116.570	2987.050	3.699	2990.749	201.01	14.37	3.21	2993.96	.00	4.04	3.44	4.500	.000	.00	1	.0	
147.876	.0100					.0109	1.62	3.70	1.26	3.79	.013	.00	.00	PIPE		
6264.446	2988.528	3.519	2992.047	201.01	15.07	3.52	2995.57	.00	4.04	3.72	4.500	.000	.00	1	.0	
90.458	.0100					.0121	1.09	3.52	1.40	3.79	.013	.00	.00	PIPE		
6354.905	2989.432	3.356	2992.788	201.01	15.80	3.88	2996.66	.00	4.04	3.92	4.500	.000	.00	1	.0	
68.855	.0100					.0135	.93	3.36	1.55	3.79	.013	.00	.00	PIPE		
6423.760	2990.120	3.208	2993.328	201.01	16.57	4.26	2997.59	.00	4.04	4.07	4.500	.000	.00	1	.0	
JUNCT STR	.0100					.0143	.07	3.21	1.69		.013	.00	.00	PIPE		
6428.760	2990.170	3.196	2993.366	201.00	16.64	4.30	2997.66	.00	4.04	4.08	4.500	.000	.00	1	.0	
86.323	.0157					.0139	1.20	3.20	1.70	3.09	.013	.00	.00	PIPE		

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OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6515.083	2991.523	3.285	2994.808	201.00	16.16	4.05	2998.86	.00	4.04	4.00	4.500	.000	.00	1	.0	
71.939	.0157					.0127	.91	3.29	1.61	3.09	.013	.00	.00	PIPE		
6587.021	2992.651	3.440	2996.091	201.00	15.41	3.69	2999.78	.00	4.04	3.82	4.500	.000	.00	1	.0	
38.534	.0157					.0114	.44	3.44	1.47	3.09	.013	.00	.00	PIPE		
6625.555	2993.255	3.612	2996.867	201.00	14.69	3.35	3000.22	.00	4.04	3.58	4.500	.000	.00	1	.0	
20.644	.0157					.0104	.21	3.61	1.32	3.09	.013	.00	.00	PIPE		

6646.199	2993.579	3.808	2997.386	201.00	14.01	3.05	3000.43	.00	4.04	3.25	4.500	.000	.00	1 .0
7.081	.0157					.0096	.07	3.81	1.17	3.09	.013	.00	.00	PIPE
6653.280	2993.690	4.042	2997.732	201.00	13.35	2.77	3000.50	.00	4.04	2.72	4.500	.000	.00	1 .0
JUNCT STR	.0160					.0077	.04	4.04	1.00		.013	.00	.00	PIPE
6658.280	2993.770	6.354	3000.124	155.00	9.75	1.47	3001.60	.00	3.65	.00	4.500	.000	.00	1 .0
116.192	.0151					.0062	.72	6.35	.00	2.62	.013	.00	.00	PIPE
6774.472	2995.526	5.358	3000.884	155.00	9.75	1.47	3002.36	.00	3.65	.00	4.500	.000	.00	1 .0
HYDRAULIC JUMP														
6774.472	2995.526	2.371	2997.897	155.00	18.24	5.17	3003.06	.00	3.65	4.49	4.500	.000	.00	1 .0
.833	.0151					.0208	.02	2.37	2.34	2.62	.013	.00	.00	PIPE
6775.305	2995.538	2.371	2997.910	155.00	18.24	5.17	3003.08	.00	3.65	4.49	4.500	.000	.00	1 .0
60.158	.0151					.0222	1.34	2.37	2.34	2.62	.013	.00	.00	PIPE

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OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6835.463	2996.447	2.283	2998.731	155.00	19.13	5.68	3004.41	.00	3.65	4.50	4.500	.000	.00	1 .0
47.816	.0151					.0252	1.21	2.28	2.51	2.62	.013	.00	.00	PIPE
6883.280	2997.170	2.200	2999.370	155.00	20.06	6.25	3005.62	.00	3.65	4.50	4.500	.000	.00	1 .0
.500	.0200					.0269	.01	2.20	2.70	2.40	.013	.00	.00	PIPE
6883.780	2997.180	2.199	2999.379	155.00	20.07	6.25	3005.63	.00	3.65	4.50	4.500	.000	.00	1 .0
.500	.0200					.0269	.01	2.20	2.70	2.40	.013	.00	.00	PIPE
6884.280	2997.190	2.198	2999.388	155.00	20.08	6.26	3005.65	.00	3.65	4.50	4.500	.000	.00	1 .0

.500	.0000					.0269	.01	2.20	2.70	.00	.013	.00	.00	PIPE					
6884.780	2997.190	2.196	2999.386	155.00	20.10	6.28	3005.66	.00	3.65	4.50	4.500	.000	.00	1	.0				
.500	.0200					.0270	.01	2.20	2.71	2.40	.013	.00	.00	PIPE					
6885.280	2997.200	2.196	2999.396	155.00	20.11	6.28	3005.68	.00	3.65	4.50	4.500	.000	.00	1	.0				
.500	.0200					.0270	.01	2.20	2.71	2.40	.013	.00	.00	PIPE					
6885.780	2997.210	2.195	2999.405	155.00	20.12	6.28	3005.69	.00	3.65	4.50	4.500	.000	.00	1	.0				
JUNCT STR	.3641					.0264	.07	2.20	2.71		.013	.00	.00	PIPE					
---------- WARNING - Junction Analysis - Change in Channel Type ----------																			
6888.280	2998.120	1.838	2999.959	155.00	19.32	5.80	3005.75	.00	3.08	5.63			5		0	.0			
2.007	.0435					.0255	.05	1.84	2.85	1.594	.013			IR-COV					

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OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6890.287	2998.208	1.843	3000.051	155.00	19.25	5.75	3005.81	.00	3.08	5.63			5	0 .0
22.971	.0435					.0238	.55	1.84	2.84	1.594	.013			IR-COV
6913.258	2999.208	1.914	3001.122	155.00	18.35	5.23	3006.35	.00	3.08	5.58			5	0 .0
17.710	.0435					.0209	.37	1.91	2.63	1.594	.013			IR-COV
6930.968	2999.979	1.988	3001.967	155.00	17.50	4.76	3006.72	.00	3.08	5.54			5	0 .0
14.024	.0435					.0183	.26	1.99	2.44	1.594	.013			IR-COV
6944.992	3000.590	2.066	3002.656	155.00	16.69	4.32	3006.98	.00	3.08	5.49			5	0 .0
11.284	.0435					.0161	.18	2.07	2.26	1.594	.013			IR-COV
6956.276	3001.081	2.149	3003.230	155.00	15.91	3.93	3007.16	.00	3.08	5.44			5	0 .0
9.156	.0435					.0141	.13	2.15	2.09	1.594	.013			IR-COV

6965.432	3001.480	2.237	3003.717	155.00	15.17	3.57	3007.29	.00	3.08	5.38			5	0	.0	
7.442	.0435					.0124	.09	2.24	1.94	1.594	.013					IR-COV
6972.874	3001.804	2.330	3004.134	155.00	14.46	3.25	3007.38	.00	3.08	5.32			5	0	.0	
6.023	.0435					.0109	.07	2.33	1.80	1.594	.013					IR-COV
6978.896	3002.066	2.429	3004.495	155.00	13.79	2.95	3007.45	.00	3.08	5.26			5	0	.0	
4.816	.0435					.0097	.05	2.43	1.66	1.594	.013					IR-COV
6983.713	3002.276	2.534	3004.810	155.00	13.15	2.68	3007.49	.00	3.08	5.12			5	0	.0	
3.690	.0435					.0086	.03	2.53	1.53	1.594	.013					IR-COV

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OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY THEN PULI ALIGNMENT
FROM BELTWAY FACILITY EAST IN CENTENNIAL THEN NORTH IN PULI ALIGNMENT

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip	
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
6987.403	3002.437	2.650	3005.086	155.00	12.54	2.44	3007.53	.00	3.08	4.88			5	0	.0	
2.644	.0435					.0077	.02	2.65	1.39	1.594	.013					IR-COV
6990.046	3002.552	2.777	3005.328	155.00	11.95	2.22	3007.55	.00	3.08	4.61			5	0	.0	
1.637	.0435					.0070	.01	2.78	1.26	1.594	.013					IR-COV
6991.684	3002.623	2.919	3005.542	155.00	11.40	2.02	3007.56	.00	3.08	4.31			5	0	.0	
.616	.0435					.0063	.00	2.92	1.13	1.594	.013					IR-COV
6992.300	3002.650	3.080	3005.730	155.00	10.86	1.83	3007.56	.00	3.08	3.89			5	0	.0	

Centennial Lateral

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T1 OLY1923 BLM 270 INFRASTRUCTURE
T2 CENTENNIAL PARKWAY
T3 FROM INTERIM DITCH TO SKYE HILLS DRIVE
SO   4780.25 2957.40  54                          2973.017
R    4882.41 2958.42  54      .013                                          1
R    5157.13 2981.55  54      .013                                          1
JX   5162.13 2982.05  48 36   .013   44.0           2983.05          90.0
R    5512.13 3002.55  48      .013                                          1
R    5862.13 3016.55  48      .013                                          1
R    6006.36 3022.52  48                                                    1
JX   6011.36 3022.72  48 18          13.0           3025.02            90.0
R    6178.35 3029.20  48      .013                                    15.0
R    6179.35 3029.24  48      .013                                    15.0
R    6180.35 3029.28  48      .013                                    15.0   1
R    6181.35 3029.32  48      .013                                    15.0
R    6254.00 3032.34  48      .013
SH   6254.00 3032.34  48
CD  18  4   1   0.000   1.500    0.000 0.000 0.000  0.0000.00  0.00
CD  24  4   1   0.000   2.000    0.000 0.000 0.000  0.0000.00  0.00
CD  36  4   1   0.000   3.000    0.000 0.000 0.000  0.0000.00  0.00
CD  48  4   1   0.000   4.000    0.000 0.000 0.000  0.0000.00  0.00
CD  54  4   1   0.000   4.500    0.000 0.000 0.000  0.0000.00  0.00
CD  60  4   1   0.000   5.000    0.000 0.000 0.000  0.0000.00  0.00
CD  66  4   1   0.000   5.500    0.000 0.000 0.000  0.0000.00  0.00
CD  72  4   1   0.000   6.000    0.000 0.000 0.000  0.0000.00  0.00
Q           202.000
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FILE: CE-LAT.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 7- 6-2020 Time:11:25:43

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	18	4	1		1.500														
CD	24	4	1		2.000														
CD	36	4	1		3.000														
CD	48	4	1		4.000														
CD	54	4	1		4.500														
CD	60	4	1		5.000														
CD	66	4	1		5.500														
CD	72	4	1		6.000														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

OLY1923 BLM 270 INFRASTRUCTURE

HEADING LINE NO 2 IS -

CENTENNIAL PARKWAY

HEADING LINE NO 3 IS -

FROM INTERIM DITCH TO SKYE HILLS DRIVE

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	4780.250	2957.400	54	2973.017

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4882.410	2958.420	54	.013	.000	.000	.000	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	5157.130	2981.550	54	.013	.000	.000	.000	1

ELEMENT NO 4 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	5162.130	2982.050	48	36	0	.013	44.000	.000	2983.050	.000	90.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	5512.130	3002.550	48	.013	.000	.000	.000	1

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	5862.130	3016.550	48	.013	.000	.000	.000	1

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6006.360	3022.520	48	.014	.000	.000	.000	1

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	6011.360	3022.720	48	18	0	.014	13.000	.000	3025.020	.000	.900	.000

RADIUS	ANGLE
.000	.000

```
ELEMENT NO   9 IS A REACH              *         *     *
                 U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                            6178.350 3029.200   48              .013                         .000     .000    15.000     0
ELEMENT NO  10 IS A REACH              *         *     *
                 U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                            6179.350 3029.240   48              .013                         .000     .000    15.000     0
                                              W S P G W                                                        PAGE NO   3
                       WATER SURFACE PROFILE - ELEMENT CARD LISTING
ELEMENT NO  11 IS A REACH              *         *     *
                 U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                            6180.350 3029.280   48              .013                         .000     .000    15.000     1
ELEMENT NO  12 IS A REACH              *         *     *
                 U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                            6181.350 3029.320   48              .013                         .000     .000    15.000     0
ELEMENT NO  13 IS A REACH              *         *     *
                 U/S DATA   STATION    INVERT  SECT              N                        RADIUS    ANGLE     ANG PT  MAN H
                            6254.000 3032.340   48              .013                         .000     .000      .000     0
ELEMENT NO  14 IS A SYSTEM HEADWORKS                 *                        *
                 U/S DATA   STATION    INVERT  SECT                                W S ELEV
                            6254.000 3032.340   48                                   .000
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OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
FROM INTERIM DITCH TO SKYE HILLS DRIVE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
4780.250	2957.400	15.617	2973.017	259.00	16.28	4.12	2977.14	.00	4.30	.00	4.500	.000	.00	1 .0
102.160	.0100				.0173	1.77	15.62	.00	4.50	.013		.00	.00	PIPE
4882.410	2958.420	16.575	2974.995	259.00	16.28	4.12	2979.11	.00	4.30	.00	4.500	.000	.00	1 .0
91.996	.0842				.0173	1.60	16.58	.00	2.13	.013		.00	.00	PIPE
4974.406	2966.166	10.494	2976.660	259.00	16.28	4.12	2980.78	.00	4.30	.00	4.500	.000	.00	1 .0
HYDRAULIC JUMP														
4974.406	2966.166	2.301	2968.467	259.00	31.65	15.56	2984.03	.00	4.30	4.50	4.500	.000	.00	1 .0
18.712	.0842				.0632	1.18	2.30	4.14	2.13	.013		.00	.00	PIPE
4993.118	2967.741	2.326	2970.067	259.00	31.23	15.14	2985.21	.00	4.30	4.50	4.500	.000	.00	1 .0
49.786	.0842				.0584	2.91	2.33	4.05	2.13	.013		.00	.00	PIPE
5042.904	2971.933	2.416	2974.349	259.00	29.77	13.76	2988.11	.00	4.30	4.49	4.500	.000	.00	1 .0
35.346	.0842				.0515	1.82	2.42	3.77	2.13	.013		.00	.00	PIPE
5078.250	2974.909	2.511	2977.420	259.00	28.39	12.51	2989.93	.00	4.30	4.47	4.500	.000	.00	1 .0
26.783	.0842				.0455	1.22	2.51	3.50	2.13	.013		.00	.00	PIPE
5105.033	2977.164	2.611	2979.774	259.00	27.07	11.38	2991.15	.00	4.30	4.44	4.500	.000	.00	1 .0
21.094	.0842				.0402	.85	2.61	3.25	2.13	.013		.00	.00	PIPE
5126.127	2978.940	2.717	2981.656	259.00	25.81	10.34	2992.00	.00	4.30	4.40	4.500	.000	.00	1 .0
17.033	.0842				.0356	.61	2.72	3.01	2.13	.013		.00	.00	PIPE

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
FROM INTERIM DITCH TO SKYE HILLS DRIVE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
5143.160	2980.374	2.828	2983.202	259.00	24.61	9.40	2992.60	.00	4.30	4.35	4.500	.000	.00	1 .0
13.970	.0842					.0315	.44	2.83	2.79	2.13	.013	.00	.00	PIPE
5157.130	2981.550	2.948	2984.498	259.00	23.46	8.55	2993.04	.00	4.30	4.28	4.500	.000	.00	1 .0
JUNCT STR	.1000					.0432	.22	2.95	2.57		.013	.00	.00	PIPE
5162.130	2982.050	2.299	2984.349	215.00	28.77	12.85	2997.20	.00	3.88	3.96	4.000	.000	.00	1 .0
4.417	.0586					.0567	.25	2.30	3.69	2.28	.013	.00	.00	PIPE
5166.546	2982.309	2.299	2984.608	215.00	28.76	12.84	2997.45	.00	3.88	3.95	4.000	.000	.00	1 .0
208.681	.0586					.0534	11.15	2.30	3.69	2.28	.013	.00	.00	PIPE
5375.228	2994.531	2.392	2996.924	215.00	27.42	11.67	3008.60	.00	3.88	3.92	4.000	.000	.00	1 .0
85.273	.0586					.0473	4.03	2.39	3.42	2.28	.013	.00	.00	PIPE
5460.501	2999.526	2.490	3002.016	215.00	26.14	10.61	3012.63	.00	3.88	3.88	4.000	.000	.00	1 .0
51.629	.0586					.0419	2.16	2.49	3.16	2.28	.013	.00	.00	PIPE
5512.130	3002.550	2.594	3005.145	215.00	24.93	9.65	3014.79	.00	3.88	3.82	4.000	.000	.00	1 .0
136.417	.0400					.0390	5.32	2.59	2.92	2.58	.013	.00	.00	PIPE
5648.546	3008.007	2.613	3010.619	215.00	24.73	9.50	3020.11	.00	3.88	3.81	4.000	.000	.00	1 .0
213.583	.0400					.0365	7.79	2.61	2.88	2.58	.013	.00	.00	PIPE
5862.130	3016.550	2.725	3019.275	215.00	23.58	8.63	3027.91	.00	3.88	3.73	4.000	.000	.00	1 .0
144.230	.0414					.0385	5.55	2.73	2.66	2.69	.014	.00	.00	PIPE

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
FROM INTERIM DITCH TO SKYE HILLS DRIVE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
6006.360	3022.520	2.799	3025.319	215.00	22.89	8.14	3033.46	.00	3.88	3.67	4.000	.000	.00	1 .0
JUNCT STR	.0400					.0381	.19	2.80	2.52		.014	.00	.00	PIPE
6011.360	3022.720	2.623	3025.343	202.00	23.13	8.31	3033.65	.00	3.85	3.80	4.000	.000	.00	1 .0
53.099	.0388					.0328	1.74	2.62	2.69	2.50	.013	.00	.00	PIPE
6064.458	3024.781	2.676	3027.457	202.00	22.60	7.93	3035.39	.00	3.85	3.76	4.000	.000	.00	1 .0
69.552	.0388					.0301	2.09	2.68	2.59	2.50	.013	.00	.00	PIPE
6134.011	3027.479	2.794	3030.273	202.00	21.55	7.21	3037.49	.00	3.85	3.67	4.000	.000	.00	1 .0
44.339	.0388					.0269	1.19	2.79	2.38	2.50	.013	.00	.00	PIPE
6178.350	3029.200	2.920	3032.120	202.00	20.55	6.56	3038.68	.00	3.85	3.55	4.000	.000	.00	1 .0
1.000	.0400					.0253	.03	2.92	2.18	2.47	.013	.00	.00	PIPE
6179.350	3029.240	2.924	3032.164	202.00	20.52	6.54	3038.70	.00	3.85	3.55	4.000	.000	.00	1 .0
1.000	.0400					.0252	.03	2.92	2.17	2.47	.013	.00	.00	PIPE
6180.350	3029.280	2.927	3032.208	202.00	20.50	6.52	3038.73	.00	3.85	3.54	4.000	.000	.00	1 .0
1.000	.0400					.0252	.03	2.93	2.17	2.47	.013	.00	.00	PIPE
6181.350	3029.320	2.931	3032.251	202.00	20.47	6.51	3038.76	.00	3.85	3.54	4.000	.000	.00	1 .0
21.499	.0416					.0241	.52	2.93	2.16	2.44	.013	.00	.00	PIPE
6202.849	3030.214	3.044	3033.258	202.00	19.69	6.02	3039.28	.00	3.85	3.41	4.000	.000	.00	1 .0
20.116	.0416					.0219	.44	3.04	2.00	2.44	.013	.00	.00	PIPE

Program Package Serial Number: 7189

WATER SURFACE PROFILE LISTING Date: 7- 6-2020 Time:11:25:45

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
FROM INTERIM DITCH TO SKYE HILLS DRIVE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip

L/Elem	Ch Slope				SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
6222.964	3031.050	3.195	3034.245	202.00	18.77	5.47	3039.72	.00	3.85	3.21	4.000	.000	.00	1	.0
15.021	.0416				.0198	.30	3.19	1.81	2.44	.013	.00	.00	PIPE		
6237.985	3031.675	3.366	3035.041	202.00	17.90	4.97	3040.01	.00	3.85	2.92	4.000	.000	.00	1	.0
10.668	.0416				.0182	.19	3.37	1.60	2.44	.013	.00	.00	PIPE		
6248.653	3032.118	3.569	3035.687	202.00	17.07	4.52	3040.21	.00	3.85	2.48	4.000	.000	.00	1	.0
5.347	.0416				.0174	.09	3.57	1.38	2.44	.013	.00	.00	PIPE		
6254.000	3032.340	3.852	3036.192	202.00	16.27	4.11	3040.30	.00	3.85	1.51	4.000	.000	.00	1	.0

Lateral 7

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T1 OLY1923 BLM 270 INFRASTRUCTURE
T2 CENTENNIAL PARKWAY
T3 OPEN LATERAL FROM NORTHWEST CORNER CENTENNIAL AND SHAUMBER
SO   1000.00 2970.00  24                          2974.20
R    1045.30 2971.49  24      .013
JX   1050.30 2971.64  24 24   .013    0.01          2971.64          90.0
R    1104.89 2974.50  24      .013
SH   1104.89 2974.50  24                          2776.90
CD  18  4   1   0.000   1.500    0.000 0.000 0.000  0.0000.00  0.00
CD  24  4   1   0.000   2.000    0.000 0.000 0.000  0.0000.00  0.00
CD  36  4   1   0.000   3.000    0.000 0.000 0.000  0.0000.00  0.00
CD  48  4   1   0.000   4.000    0.000 0.000 0.000  0.0000.00  0.00
CD  54  4   1   0.000   4.500    0.000 0.000 0.000  0.0000.00  0.00
CD  60  4   1   0.000   5.000    0.000 0.000 0.000  0.0000.00  0.00
CD  66  4   1   0.000   5.500    0.000 0.000 0.000  0.0000.00  0.00
CD  72  4   1   0.000   6.000    0.000 0.000 0.000  0.0000.00  0.00
Q           16.000
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FILE: LAT7.WSW W S P G W - EDIT LISTING - Version 14.10 Date: 7- 1-2020 Time: 1:51: 2

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	18	4	1		1.500														
CD	24	4	1		2.000														
CD	36	4	1		3.000														
CD	48	4	1		4.000														
CD	54	4	1		4.500														
CD	60	4	1		5.000														
CD	66	4	1		5.500														
CD	72	4	1		6.000														

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

OLY1923 BLM 270 INFRASTRUCTURE

HEADING LINE NO 2 IS -

CENTENNIAL PARKWAY

HEADING LINE NO 3 IS -

OPEN LATERAL FROM NORTHWEST CORNER CENTENNIAL AND SHAUMBER

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.000	2970.000	24	2974.200

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1045.300	2971.490	24	.013	.000	.000	.000	0

ELEMENT NO 3 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1050.300	2971.640	24	24	0	.013	.010	.000	2971.640	.000	90.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1104.890	2974.500	24	.013	.000	.000	.000	0

ELEMENT NO 5 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1104.890	2974.500	24	2776.900

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OPEN LATERAL FROM NORTHWEST CORNER CENTENNIAL AND SHAUMBER

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1000.000	2970.000	4.200	2974.200	16.01	5.10	.40	2974.60	.00	1.44	.00	2.000	.000	.00	1 .0
45.300	.0329					.0050	.23	4.20	.00	.87	.013	.00	.00	PIPE
1045.300	2971.490	2.937	2974.427	16.01	5.10	.40	2974.83	.00	1.44	.00	2.000	.000	.00	1 .0
JUNCT STR	.0300					.0050	.03	2.94	.00		.013	.00	.00	PIPE
1050.300	2971.640	2.813	2974.453	16.00	5.09	.40	2974.86	.00	1.44	.00	2.000	.000	.00	1 .0
9.906	.0524					.0050	.05	2.81	.00	.76	.013	.00	.00	PIPE
1060.206	2972.159	2.342	2974.501	16.00	5.09	.40	2974.90	.00	1.44	.00	2.000	.000	.00	1 .0
HYDRAULIC JUMP														
1060.206	2972.159	.842	2973.001	16.00	12.74	2.52	2975.52	.00	1.44	1.97	2.000	.000	.00	1 .0
8.290	.0524					.0348	.29	.84	2.81	.76	.013	.00	.00	PIPE
1068.496	2972.593	.866	2973.459	16.00	12.27	2.34	2975.80	.00	1.44	1.98	2.000	.000	.00	1 .0
8.449	.0524					.0310	.26	.87	2.67	.76	.013	.00	.00	PIPE
1076.945	2973.036	.898	2973.934	16.00	11.70	2.13	2976.06	.00	1.44	1.99	2.000	.000	.00	1 .0
6.357	.0524					.0273	.17	.90	2.49	.76	.013	.00	.00	PIPE
1083.302	2973.369	.932	2974.301	16.00	11.15	1.93	2976.23	.00	1.44	2.00	2.000	.000	.00	1 .0
4.947	.0524					.0240	.12	.93	2.32	.76	.013	.00	.00	PIPE
1088.250	2973.628	.967	2974.595	16.00	10.63	1.76	2976.35	.00	1.44	2.00	2.000	.000	.00	1 .0
3.931	.0524					.0211	.08	.97	2.16	.76	.013	.00	.00	PIPE

OLY1923 BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OPEN LATERAL FROM NORTHWEST CORNER CENTENNIAL AND SHAUMBER

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1092.180	2973.834	1.004	2974.838	16.00	10.14	1.60	2976.43	.00	1.44	2.00	2.000	.000	.00	1 .0
3.155	.0524					.0186	.06	1.00	2.01	.76	.013	.00	.00	PIPE
1095.336	2974.000	1.042	2975.042	16.00	9.67	1.45	2976.49	.00	1.44	2.00	2.000	.000	.00	1 .0
2.540	.0524					.0164	.04	1.04	1.87	.76	.013	.00	.00	PIPE
1097.876	2974.133	1.083	2975.215	16.00	9.22	1.32	2976.53	.00	1.44	1.99	2.000	.000	.00	1 .0
2.039	.0524					.0145	.03	1.08	1.74	.76	.013	.00	.00	PIPE
1099.915	2974.240	1.125	2975.365	16.00	8.79	1.20	2976.56	.00	1.44	1.98	2.000	.000	.00	1 .0
1.619	.0524					.0128	.02	1.13	1.62	.76	.013	.00	.00	PIPE
1101.534	2974.324	1.170	2975.494	16.00	8.38	1.09	2976.58	.00	1.44	1.97	2.000	.000	.00	1 .0
1.256	.0524					.0113	.01	1.17	1.50	.76	.013	.00	.00	PIPE
1102.790	2974.390	1.218	2975.608	16.00	7.99	.99	2976.60	.00	1.44	1.95	2.000	.000	.00	1 .0
.937	.0524					.0100	.01	1.22	1.39	.76	.013	.00	.00	PIPE
1103.727	2974.439	1.268	2975.707	16.00	7.62	.90	2976.61	.00	1.44	1.93	2.000	.000	.00	1 .0
.651	.0524					.0089	.01	1.27	1.29	.76	.013	.00	.00	PIPE
1104.378	2974.473	1.322	2975.795	16.00	7.26	.82	2976.61	.00	1.44	1.89	2.000	.000	.00	1 .0
.384	.0524					.0079	.00	1.32	1.19	.76	.013	.00	.00	PIPE
1104.762	2974.493	1.379	2975.872	16.00	6.93	.74	2976.62	.00	1.44	1.85	2.000	.000	.00	1 .0
.128	.0524					.0070	.00	1.38	1.09	.76	.013	.00	.00	PIPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1104.890	2974.500	1.442	2975.942	16.00	6.60	.68	2976.62	.00	1.44	1.79	2.000	.000	.00	1 .0

Other Storm Drain Computations

Project Name:	BLM 270 Infrastructure Centennial
Project Number:	OLY1923
Date:	6/30/2020
By:	AA

Westwood

STORM SEWER HYDRAULIC CALCULATIONS

CONDUIT DATA							FLOW DATA							LOSS	HGL		COMMENTS	
STATION		SIZE / TYPE	n	INVERTS		LENGTH	A	R	Φ	Q	V	H_v =	S_f	PIPE	PIPE			
FROM	TO		Manning's Roughness	D / S ELEV.	U / S ELEV.		(FT^2)	(FT)		(CFS)	(FPS)	$V^2/2g$ (FT)	(FT/FT)	H_f (FT)	D/S HGL ELEV.	U/S HGL ELEV.	PRESS. FLOW?	OTHER
1000	1072.75	ROUND 48" RCP	0.013	3029.32	3032.34	72.75	12.56637	1	0.004925	202	16.07465	4.012335	0.019759569	1.438	3032.25	3033.69	No	LATERAL 1A ON SD-1
1000	1062.00	ROUND 18" RCP	0.013	3025.02	3028.74	62	1.767146	0.375	0.004925	13	7.356495	0.840342	0.015253685	0.945728	3025.34	3026.29	No	LATERAL 15 ON SD-2
1000	1044.00	ROUND 36" RCP	0.013	2983.05	2984.93	44	7.068583	0.75	0.004925	44	6.224727	0.601665	0.004344137	0.191	2984.50	2984.69	No	LATERAL 2 ON SD-1
1000	1022.81	ROUND 36" RCP	0.013	2922.08	2922.54	22.81	7.068583	0.75	0.004925	33	4.668545	0.338437	0.002443577	0.056	2923.06	2923.12	No	LATERAL 4 ON SD-1
1000	1023.93	ROUND 24" RCP	0.013	2912.37	2912.51	23.93	3.141593	0.5	0.004925	22	7.002818	0.761482	0.009427791	0.226	2915.38	2915.60	Yes	LATERAL 5 ON SD-1
1000	1019.34	ROUND 36" RCP	0.013	2910.84	2911.18	19.34	7.068583	0.75	0.004925	25	3.536777	0.194236	0.00140242	0.027	2911.07	2911.10	No	LATERAL 6 ON SD-1
1000	1159.09	ROUND 54" RCP	0.013	2975.68	2981.82	159.09	15.90431	1.125	0.004925	61	3.835438	0.228425	0.000961815	0.153	2982.05	2982.20	No	LATERAL 9 ON SD-2
1000	1101.48	ROUND 30" RCP	0.013	2995.77	3000.14	101.48	4.908738	0.625	0.004925	46	9.371043	1.363609	0.012547289	1.273	3000.124	3001.40	No	LATERAL 9 ON SD-3

$Sf = \Phi Hv / R^{1.33}$ $\Phi = 2g (n^2) / 2.21$

1 - Where pipes are not under pressure, assume U/S HGL is at top of pipe

APPENDIX L

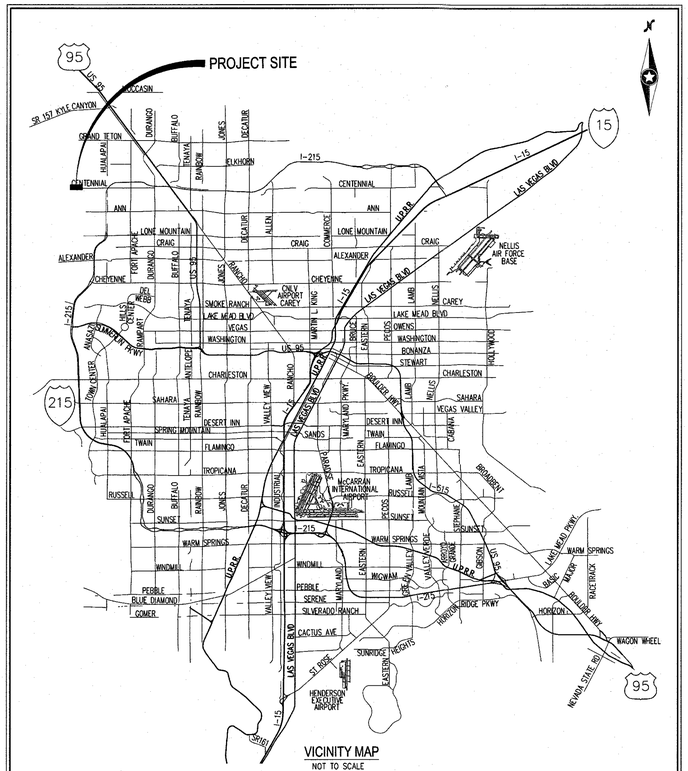
Grading Plan, Profile & Detail Sheets

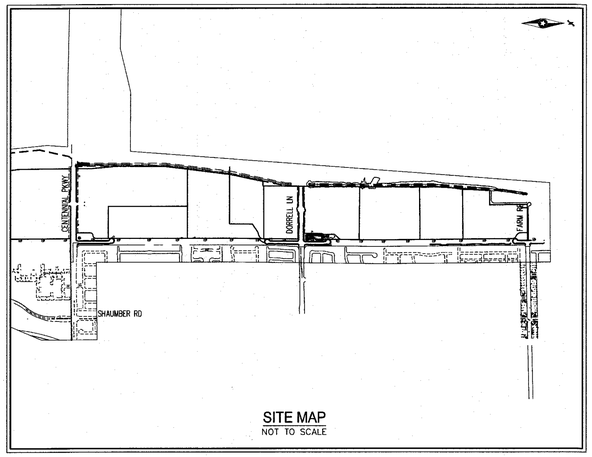
190 OCTANE FT PARTNERS, LLC

IMPROVEMENT PLANS
FOR
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY

CITY OF LAS VEGAS, NEVADA
INFRASTRUCTURE

APN: 126-25-201-010, 126-26-000-003, 126-24-499-010, 126-23-000-005





SHEET INDEX

NO.	SHEET	TITLE
1	C-1	COVER SHEET
2	C-2	GENERAL NOTES
3	C-3	LEGEND, ABBREVIATIONS, QUANTITIES
4	DM-1	DEMOLITION PLAN 1
5	DM-2	DEMOLITION PLAN 2
6	DM-3	DEMOLITION PLAN 3
7	PP-1	PLAN & PROFILE 1
8	PP-2	PLAN & PROFILE 2
9	PP-3	PLAN & PROFILE 3
10	PP-4	PLAN & PROFILE 4
11	PP-5	PLAN & PROFILE 5
12	PP-6	PLAN & PROFILE 6
13	PP-7	PLAN & PROFILE 7
14	PP-8	PLAN & PROFILE 8
15	OS-1	OFF-SITE SD PLAN & PROFILE 1
16	OS-2	OFF-SITE SD PLAN & PROFILE 2
17	OS-3	OFF-SITE SD PLAN & PROFILE 3
18	OS-4	OFF-SITE SD PLAN & PROFILE 4
19	OC-1	OFF-SITE INTERM CHANNEL 1
20	OC-2	OFF-SITE INTERM CHANNEL 2
21	OC-3	OFF-SITE INTERM CHANNEL 3
22	OC-4	OFF-SITE INTERM CHANNEL 4
23	OC-5	OFF-SITE INTERM CHANNEL 5
24	OC-6	OFF-SITE INTERM CHANNEL 6
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26	OC-8	OFF-SITE INTERM CHANNEL 8
27	SD-1	STORM DRAIN LATERAL 1
28	SD-2	STORM DRAIN LATERAL 2
29	G-1	GRADING PLAN 1
30	G-2	GRADING PLAN 2
31	G-3	GRADING PLAN 3
32	G-4	GRADING PLAN 4
33	G-5	GRADING PLAN 5
34	G-6	GRADING PLAN 6
35	G-7	GRADING PLAN 7
36	D-1	DETAIL SHEET 1
37	D-2	DETAIL SHEET 2
38	ST-1	SIGNAGE & STRIPING PLAN 1
39	ST-2	SIGNAGE & STRIPING PLAN 2
40	ST-3	SIGNAGE & STRIPING PLAN 3
41	ST-4	SIGNAGE & STRIPING PLAN 4
42	ST-5	SIGNAGE & STRIPING PLAN 5
43	ST-6	SIGNAGE & STRIPING PLAN 6
44	LL-1	LIGHTING & ITS PLAN 1
45	LL-2	LIGHTING & ITS PLAN 2
46	LL-3	LIGHTING & ITS PLAN 3
47	TS-1	PEDESTRIAN FLASHER PLAN 1
48	TS-2	PEDESTRIAN FLASHER PLAN 2
49	HC-1	HORIZONTAL CONTROL PLAN 1
50	HC-2	HORIZONTAL CONTROL PLAN 2

APPROVALS

CITY ENGINEER — DATE

LAS VEGAS FIRE AND RESCUE — DATE

CITY OF LAS VEGAS – PLANNING DEPARTMENT — DATE

THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.

CENTRAL TELEPHONE CO. DBA CENTURYLINK — DATE

THE AFFIXED CENTURYLINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUES AND / OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. ###### FIRST APPROVED DATE: _____
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 20 GPM

SHEETS: ADD FIELD

NV ENERGY — DATE

NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

SOUTHWEST GAS CORPORATION — DATE

COX COMMUNICATIONS LAS VEGAS, INC. — DATE

OWNER/DEVELOPER	ENGINEER
190 OCTANE, LLC c/o OLYMPIA COMPANIES, LLC 11411 SOUTHERN HIGHLANDS PARKWAY, SUITE 300 LAS VEGAS, NV 89141 PH: (702) 220-6565 FX: (702) 220-6566	WESTWOOD PROFESSIONAL SERVICES 5740 S. ARVILLE STREET, SUITE 216 LAS VEGAS, NV 89118 PH: (702) 284-5300 FX: (702) 284-5399 CONTACT: JOSH JOHNSON

BENCHMARK

BENCHMARK NUMBER: 6LV991.3W4

RIVET AND PLATE ON TOP OF CURB AT THE NORTHEAST CORNER OF FARM ROAD AND MAINWAL BLVD.

ELEVATION = 3054.93 FEET, 931.43 METERS N.A.V.D. 88 DATUM

PER THE CITY OF LAS VEGAS VERTICAL CONTROL WEBSITE

FEMA FLOOD ZONE INFORMATION

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983, SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.00

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRAVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)
EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
1) ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION.

2) GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

DEVIATIONS FROM STANDARDS

NONE

SWPPP NOTE

NOTE: ALL LAND SURFACE AREA DISTURBANCES OVER 1 ACRE REQUIRE A STORMWATER DISCHARGE PERMIT ISSUED BY THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP). A PHASED CONSTRUCTION UNIT IN A CONTIGUOUS SUBDIVISION IS CONSIDERED UNDER CONSTRUCTION UNTIL ALL STRIPPED SURFACE AREAS HAVE BEEN COVERED BY PAVING, BUILDING CONSTRUCTION OR PLANTING. A STORMWATER DISCHARGE PERMIT APPLICATION AND ASSOCIATED INFORMATION MAY BE DOWNLOADED FROM THE WEB SITE: HTTP://WWW.STATE.NV.US/BWPC/STORM01.HTM PROJECTS THAT DISTURB MORE THAN ONE ACRE OF LAND MUST SUBMIT TO NDEP A "NOTICE OF INTENT" FOR INCLUSION UNDER STORMWATER PERMIT NO. NVR100000 ALONG WITH THE APPROPRIATE FILLING FEE.

GEOTECHNICAL ENGINEER

PREPARED BY: SOUTHWEST GEOTECHNICAL
ADDRESS: 5275 ARVILLE ST. SUITE 108, LAS VEGAS, NV 89118
PHONE: (702) 353-6000
PROJECT No. 192111
DATED: 1/28/20

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

FAST
Call before you
UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

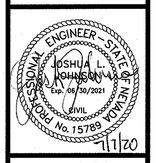
NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
COVER SHEET

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000



7/1/20

C-1
SHEET 1 OF 50

J:\oly1923-000 bim 270 infrastructure\dwg\improv\centennial pkwy\oly1923-000 cvr.dwg 7/7/2020 12:10 PM Cole Stubitz

STORMWATER RUNOFF MANAGEMENT

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT ,MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN TITLE 24.40 AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983, SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.00

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRAVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)
EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
1) ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION.
2) GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

BENCHMARK

BENCHMARK NUMBER: 6LV9913W4

RIVET AND PLATE ON TOP OF CURB AT THE NORTHEAST CORNER OF FARM ROAD AND MAINWAL BLVD.

ELEVATION = 3054.93 FEET, 931.43 METERS
N.A.V.D. 88 DATUM

PER THE CITY OF LAS VEGAS VERTICAL CONTROL WEBSITE

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION GENERAL NOTES

1. IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020
2. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND UTILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRICAL SHALL BE AT LEAST 12-INCHES OR GREATER AS DICTATED BY LOCAL CODES AND STANDARDS.
   A) ANY DEVIATION FROM SPECIFIED MINIMUM CLEARANCES MUST BE APPROVED BY ALL AFFECTED UTILITIES AND/OR MUNICIPALITIES
3. FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION.
4. IN THE EVENT OF NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND STRUCTURES CONTACT 702-365-2099
5. SOUTHWEST GAS STANDBY CONTACT NUMBER (702)-400-1789

SOUTHWEST GAS APPROVAL

SOUTHWEST GAS CORPORATION DATE

2.2 CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
3. CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES IN LINE "Y". "S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD NOTES

LVVWD PROJECT # ADD FIELD (REVISED 08/01/2017)

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
9. ALL WATER FACILITIES AND APPURTENANCES SHALL BE DISINFECTED, PRESSURE TESTED, AND HAVE AN ACCEPTABLE PASSING HEALTH WATER SAMPLE OBTAINED, PRIOR TO OPERATION AND USE.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD APPROVED PRODUCT'S LIST FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS BY SUBMITTING SHOP DRAWINGS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600.
14. THE INSTALLATION OF LVVWD MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.

    ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

15. NO LEAD COMPLIANCE NOTE:
TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

GRADING NOTES

1. INDICATED GRADES OTHER THAN T.C., F.G. & GUTTER F.L. ARE ROUGH GRADES.
2. THE ROUGH GRADING PLANS SHALL BE ON THE JOB SITE AT ALL TIMES. THE ROUGH GRADING SHALL BE FINISHED IN CONFORMANCE WITH THE LINES AND GRADES SHOWN ON THE PLANS. THE GRADING QUANTITIES ARE BASED ON THE ELEVATION AND DETAILS SHOWN ON THE PLANS. ANY DEVIATIONS FROM THE PLANS WILL RESULT IN QUANTITY CHANGES.
3. CARE SHALL BE EXERCISED IN GRADING CORNER LOTS.
4. ROUGH PAD ELEVATIONS SHALL BE GRADED TO WITHIN 0.1' OF THE PAD ELEVATIONS SHOWN ON THE PLANS. WHEN GRADING IS COMPLETE PER THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE LOTS CAN BE INSPECTED. AT THAT TIME THE ENGINEER SHALL ALSO DECIDE IF ANY ADDITIONAL DITCHES OR BERMS ARE REQUIRED. THE CONTRACTOR IS REQUESTED NOT TO REMOVE ANY OF HIS ROUGH GRADING EQUIPMENT UNTIL HE RECEIVES GRADING APPROVAL FROM THE ENGINEER.
5. SOILS REPORT PREPARED BY SOUTHWEST GEOTECHNICAL, PROJECT NO. 197111, DATED 01/28/20.
6. EARTHWORK QUANTITIES (RAW):
   -CUT = 9,589 CUBIC YARDS.
   -FILL = 19,551 CUBIC YARDS
   A) THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SUBSIDENCE OR SHRINKAGE.
   B) THE ABOVE QUANTITIES DO REFLECT USING NATIVE MATERIAL IN LIEU OF TYPE I GRAVEL BASE MATERIAL FOR STREET SECTIONS.
   C) THE ABOVE QUANTITIES DO NOT REFLECT ANY EARTHWORK WHICH MAY BE REQUIRED BY THE ENGINEER TO CONSTRUCT ADDITIONAL PROTECTIVE DITCHES OR BERMS NOT SHOWN ON THESE DRAWINGS.

CITY OF LAS VEGAS FIRE AND RESCUE GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE # 6631 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S – APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. IFC § 105.6.15
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. IFC § 3310.1 AND 912
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. IFC § 507.5.7.3
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. IFC § 106.3
7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. IFC § 507.2.1, NFPA 24
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. IFC § 507
9. PRIVATE HYDRANTS SHALL BE PAINTED RED. IFC § 507.5.7.1
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. IFC § 507
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: IFC § C102
    - RESIDENTIAL – 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
    - COMMERCIAL – 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM OF 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. IFC § C102.8
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. IFC § C102.10
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.4
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. IFC § C102.7
17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. IFC § C102.6
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. FOR SYSTEMS REQUIRED TO HAVE TWO (2) SOURCES OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. FOR SYSTEMS PERMITTED TO HAVE ONE SOURCE OF WATER SUPPLY, SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 3 FIRE HYDRANTS AND/OR FIRE SPRINKLER LEAD-INS CAN BE OUT OF SERVICE DUE TO A SERVICE INTERRUPTION. IFC § C104
19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. IFC § 503.2.3
20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. IFC § 503.2.7, § 503.2.8
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. IFC § 503.2.4
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13FT 6 INS. IFC § 503.2.1
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 33 FT WITH PARKING ON BOTH SIDES MEASURED TO FACE OF CURB. NOT LESS THAN 28 FT WIDE WITH PARKING RESTRICTED TO ONE SIDE MEASURED TO FACE OF CURB. NOT LESS THAN 24 FT WIDE WITH NO PARKING ON EITHER SIDE MEASURED TO FACE OF CURB. FIRE LANES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. IFC § 503.2.1.1
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. IFC § 503.1.1
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 200 OR MORE DWELLING UNITS. ROAD(S) WITH DEAD- ENDS OR A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. CLV REGULATION AND MOU
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. CLV REGULATION
27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. IFC § 503.3
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. IFC § 503.6
29. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS, OR HAVING FOUR OR MORE TRAVEL LANES AND A TRAFFIC COUNT OF MORE THAN 30,000 VEHICLES PER DAY, ALL HYDRANTS BEING USED TO DELIVER FIRE FLOW TO THE PROPOSED LOCATION SHALL BE LOCATED ON THE SAME SIDE OF THE STREET AS THE PROPOSED DEVELOPMENT. CLV REGULATION

2.5 CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL COMPACTION	
A. PAVEMENT AREA SUBGRADE	0.1'+	+0.0' TO -0.1'	SEE SOILS REPORT
B. ENGINEERED FILL	0.5'+	+0.1' TO -0.1'	SEE SOILS REPORT

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

UTILITY LOCATION NOTE TO CONTRACTOR

EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS. CALL BEFORE YOU DIG: 1 (800) 227-2600; SOUTHWEST GAS CORPORATION: 702-400-1789 (STANDBY CONTACT NUMBER)

2.1 CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES, WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300'IN EXTRUDED-TYPE CURB.
8. AC PAVEMENT TO BE ONE-HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
9. CURB AND GUT

ABBREVIATIONS

AC	ASPHALTIC CONCRETE OR ACRE	FL	FLOWLINE	PVI	POINT OF VERTICAL INTERSECTION
AGG	AGGREGATE BASE	FT	FEET OR FOOT	QTY	QUANTITY
APN	ASSESSORS PARCEL NUMBER	FUT	FUTURE	R	RADIUS
APPROX OR ~	APPROXIMATE	GRD	GRADE OR GROUND	RCA	REINFORCED CONCRETE ARCH
AVE	AVENUE	GB	GRADE BREAK OR GRADE CHANGE	RCB	REINFORCED CONCRETE BOX
@	AT	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE
BC	BEGIN CURVE OR BACK OF CURB	HDPE	HIGH DENSITY POLYETHYLENE	RD	ROAD
BCR	BEGINNING OF CURB RETURN	HOA	HOME OWNERS ASSOCIATION	ROWY ESMT	ROADWAY EASEMENT
BHW	BOTTOM OF HEADWALL	HORIZ	HORIZONTAL	REQD	REQUIRED
BLDG	BUILDING	HP	HIGH POINT	REV	REVISION
BLVD	BOULEVARD	HWL	HIGH WATER LEVEL	RG	ROUGH GRADE
BM	BENCHMARK	HDWL OR HW	HEADWALL	RT OR R	RIGHT
BVC	BEGIN VERTICAL CURVE	HYD	HYDRAULIC OR HYDRANT	RW, ROW	RIGHT OF WAY
BWV	BACK WATER VALVE	ID	INSIDE DIAMETER	S	SLOPE
CC	CLARK COUNTY	IN	INCH	SCH	SCHEDULE
CCAUSD	CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS	INT	INTERSECTION	SD	STORM DRAIN
CCPW	CLARK COUNTY PUBLIC WORKS	INV	INVERT ELEVATION	SDDI	STORM DRAIN DROP INLET
CCRFCD	CLARK COUNTY REGIONAL FLOOD DISTRICT	IP	IRON PIPE	SDMH	STORM DRAIN MANHOLE
CCWRD	CLARK COUNTY WATER RECLAMATION DISTRICT	IRRG	IRRIGATION	SEC	SECTION
CE	COMMON ELEMENT	LF	LINEAR FEET	SF	SQUARE FEET
CL,C/L,C	CENTERLINE	LMC	LANDSCAPE MAINTENANCE CORPORATION	SHT	SHEET
CLR	CLEAR OR CLEARANCE	LP	LOW POINT	SLTC	STREET LIGHT & TRAFFIC CONTROL ESMT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LT OR L	LEFT	SNWA	SOUTHERN NEVADA WATER AUTHORITY
CLV	CITY OF LAS VEGAS	LVVWD	LAS VEGAS VALLEY WATER DISTRICT	SPECS	SPECIFICATIONS
CML&C	CEMENT MORTAR LINED AND COATED	LWL	LOW WATER LEVEL	ST	STREET
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM	SSMH	SANITARY SEWER MANHOLE
CNLV	CITY OF NORTH LAS VEGAS	MECH	MECHANICAL	STA	STATION
COH	CITY OF HENDERSON	MH	MANHOLE	STD	STANDARD
CONC	CONCRETE	MIN	MINIMUM	STL	STEEL
CT	COURT	MISC	MISCELLANEOUS	STLT	STREET LIGHT
CY OR CU YD	CUBIC YARD	MUE	MUNICIPAL UTILITY EASEMENT	SW	SIDEWALK
DCWCS	DESIGN AND CONSTRUCTION FOR WASTEWATER COLLECTION SYSTEMS	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION	SWG	SOUTHWEST GAS
		NTS	NOT TO SCALE	SWR OR SS	SANITARY SEWER
DE	DRAINAGE EASEMENT	NUE	NONEXCLUSIVE UTILITY EASEMENT	SY	SQUARE YARD
DET	DETAIL	NVE	NV ENERGY	TAN	TANGENT
DI	DUCTILE IRON OR DRAIN INLET	OC	ON CENTER	TC	TOP OF CURB
DIA, ⌀	DIAMETER	OD	OUTSIDE DIAMETER OR OVERALL DIMENSION	TF	TOP OF FLOOR OR TOP OF FOOTING
DIP	DUCTILE IRON PIPE	OFF	OFFSET	TG	TOP OF GRATE
DR	DRIVE	ORIG	ORIGINAL	THRU	THROUGH
DWG(S)	DRAWING	PAE	PUBLIC OR PEDESTRIAN ACCESS EASEMENT	THW	TOP OF HEADWALL
DWY	DRIVEWAY	PB	PULL BOX	TP	TOP OF PIPE
EA	EACH	PC	POINT OF CURVE	TW	TOP OF WALL
ECR	END CURB RETURN	PCC	POINT OF COMPOUND CURVE	TRW	TOP OF RETAINING WALL
EG	EXISTING GROUND	PDE	PUBLIC DRAINAGE EASEMENT	TSW	TOP OF SCREEN WALL
ELEV	ELEVATION	℄ OR PL	PROPERTY LINE	TYP	TYPICAL
ESMT	EASEMENT	POB	POINT OF BEGINNING	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
EP	EDGE OF PAVEMENT	POC	POINT OF CURVATURE		
ERU	EQUIVALENT RESIDENTIAL UNIT	POE	POINT OF ENDING	UE	UTILITY EASEMENT
EVC	END VERTICAL CURVE	PRC	POINT OF REVERSE CURVATURE	VC	VERTICAL CURVE
EX OR EXIST	EXISTING	PRELIM	PRELIMINARY	VERT	VERTICAL
FC	FACE OF CURB	PROP	PROPOSED	VG	VALLEY GUTTER
FF	FINISHED FLOOR	PRV	PRESSURE REDUCING VALVE	WI	WROUGHT IRON
FG	FINISHED GRADE	PUE	PUBLIC UTILITY EASEMENT	WL	WATER LINE
FGH	FINISHED GRADE, HIGH SIDE	PT	POINT OF TANGENT OR POINT	WPZ	WATER PRESSURE ZONE
FGL	FINISHED GRADE, LOW SIDE	PVC	POLYVINYL CHLORIDE	WT	WEIGHT
FH	FIRE HYDRANT			WTR	WATER LINE

SPECIAL NOTE

IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED WHICH IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY OF LAS VEGAS DEPT. OF PUBLIC WORKS. TEMPORARY CONSTRUCTION ITEMS INCLUDE: PAVEMENT TRANSITIONS, PROTECTIVE DITCHES AND BERMS, ROAD SIGNS AND BARRICADES, ETC.

NOTICE TO CONTRACTOR

-QUANTITIES SHOWN ARE ESTIMATES ONLY AND ARE INTENDED TO ILLUSTRATE SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITIES INVOLVED.

-EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS. CALL BEFORE YOU DIG: (800) 227-2600

LEGEND

EXISTING	PROPOSED	DESCRIPTION
(1900)	1900	5' CONTOUR
		1' CONTOUR
		STRIPING
		SEWER MANHOLE
		CURB AND GUTTER
EX 8" PVC SS	8" PVC SS	SANITARY SEWER PIPE AND FLOW ARROW
EX 8" PVC WTR	8" PVC WTR	WATER PIPE
		WATER GATE VALVE
		FIRE HYDRANT
		WATER BLOW-OFF
		WATER LATERAL W/ METER
		SANITARY SEWER LATERAL
		STREETLIGHT
		EDGE OF PAVEMENT
		TRAFFIC SIGN
PAD= XXX.X FF = XXX.X	PAD= XXX.X FF = XXX.X	PAD ELEVATION FINISHED FLOOR ELEVATION
TC XXX.XX	TC XXX.XX	ELEVATION
		RETAINING WALL
		STORM DRAIN W/ MANHOLE

	EXISTING GAS GATE VALVE
@MH	EXISTING UNKNOWN MANHOLE
GAS	EXISTING GAS, SIZE PER PLAN
	EXISTING POWER POLE
6830	EXISTING TRAFFIC SIGNAL
	EXISTING WALL
	WATER PIPE FITTING
POC	WATER POINT OF CONNECTION
POC	SEWER POINT OF CONNECTION
	DAYLIGHT LINE
	STREET CENTERLINE
	RIGHT-OF-WAY
	MATCHLINE
	BOUNDARY LINE
	PHASE LINE
	PROPERTY LINE
	FLOWLINE
	SAWCUT
FILL / CUT	CUT/FILL TRANSITION LINE
	SIDEWALK
	EX STRIPING TO BE OBLITERATED
	GRADE BREAK LINE
ID	REFLECTIVE RAISED PAVEMENT MARKERS
BWV	BACK WATER VALVE
	WROUGHT IRON FENCE
	PONY WALL
	DECORATIVE PERIMETER WALL
	DECORATIVE PERIMETER RETAINING WALL
	PROPOSED CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB
	EXISTING CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB
	FUTURE CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB

	PROPOSED SCARP AREA
	DRIVEWAY
	PROPOSED RIP RAP
	SIGHT VISIBILITY ZONE PER STD DWG NO. 201.2
DETECTABLE WARNING	HANDICAP RAMP

QUANTITIES

			PRIVATE	PUBLIC
DRAINAGE				
1.	18" RCP STORM DRAIN	LF	–	62
2.	24" RCP STORM DRAIN	LF	–	55
3.	24" PVC STORM DRAIN	LF	–	50
4.	30" PVC STORM DRAIN	LF	–	101
5.	36" RCP STORM DRAIN	LF	–	44
6.	48" RCP STORM DRAIN	LF	–	1178
7.	54" RCP STORM DRAIN	LF	–	2063
8.	60" RCP STORM DRAIN	LF	–	1218
9.	76" X 48" HERCP	LF	–	500
10.	60" TYPE III STORM DRAIN MANHOLE	EA	–	10
11.	48" TYPE I STORM DRAIN MANHOLE	EA	–	3
12.	48" TYPE II STORM DRAIN MANHOLE	EA	–	6
13.	72" TYPE III STORM DRAIN MANHOLE	EA	–	2
14.	10' TYPE C DROP INLET	EA	–	1
15.	NDOT TYPE 2 DROP INLET	EA	–	2
16.	STORM DRAIN PLUG	EA	–	4
17.	ABANDON PUBLIC RCP/RCB	LF	–	2960
18.	REMOVE DROP INLET	EA	–	2
19.	5' X 5' RCB	LF	–	67
20.	68" X 43" HERCP	LF	–	107
21.	RIP-RAP, D_{50}=18"	CY	–	1200
22.	RIP-RAP, D_{50}=3"	CY	–	50
SEWER SYSTEM				
1.	4" PVC SEWER LATERAL (PRIVATE)	LF	–	–
2.	8" PVC SEWER PIPE (PUBLIC)	LF	–	256
3.	STANDARD 48" SEWER MANHOLE (PUBLIC)	EA	–	2
4.	8" SEWER PLUG	EA	–	2
5.	BACK WATER VALVE	EA	–	–
6.	8" C-900 WATER QUALITY SEWER PIPE (PUBLIC)	EA	–	–
7.				
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	–	2
2.	6" PVC WATER PIPE (CLASS 150)	LF	–	140
3.	8" PVC WATER PIPE (CLASS 150)	LF	–	160
4.	12" PVC WATER PIPE (CLASS 150)	LF	–	833
5.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	–
6.	8" X 6" TEE PER UDACS PLATE NO. 31	EA	–	–
7.	8" X 8" TEE PER UDACS PLATE NO. 31	EA	–	–
8.	8" 5 DEGREE BEND WITH RESTRAINED JOINTS	EA	–	–
9.	8" 11.25 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
10.	8" 22.5 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
11.	8" 45 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
12.	8" 90 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	–
13.	CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	–
14.	1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 2	EA	–	–
15.	1" COPPER SERVICE W/ 1" METER PER UDACS PLATE NO. 4	EA	–	–
16.	IRRIGATION SLEEVE	EA	–	8
17.	WATER MAIN TAP	EA	–	1
STREET IMPROVEMENTS				
1.	3" A.C. PAVEMENT W/ 4" TYPE II	SY	–	3003
2.	6" A.C. PAVEMENT W/ 4" TYPE II	SY	–	13181
3.	STANDARD 18" TYPE "L" ISLAND CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	4078
4.	STANDARD 8" TYPE "A" ISLAND CURB W/6" TYPE I AGGREGATE BASE	LF	–	2364
5.	CONCRETE CROSS GUTTER	SF	–	1826
6.	4" CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	–	21957
7.	SIDEWALK ACCESS RAMP	EA	–	7
8.	SURVEY MONUMENTS	EA	–	1
SIGNAGE & STRIPING				
1.	STREET/STOP SIGNS	EA	–	30
2.	9" STREET NAME SIGN (0-3, BROWN W/ WHITE LETTERS)(6 POLES x 2 PER POLE=12)	EA	–	–
3.	REFLECTIVE PAVEMENT BUTTON	EA	–	2
4.	CROSSWALK MARKINGS	LF	–	–
5.	PAVEMENT STRIPING ARTERIAL	LF	–	1400
6.				
7.				
8.				
DRY UTILITIES				
1.	STREET LIGHT (CONCRETE POLE AND FOUNDATION)	EA	–	19
2.	2" PVC STREET LIGHT CONDUIT	LF	–	3164
3.	NO. 3-1/2 PULL BOX W/METAL COVER	EA	–	6
4.	150 AMP SERVICE PEDESTAL (IRR)	EA	–	–
5.	200 AMP SERVICE PEDESTAL (STLT)	EA	–	1
6.	4" INTERCONNECT CONDUIT	LF	–	3164

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. ###### FIRST APPROVED DATE: _____







Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY LEGEND, ABBREVIATIONS, QUANTITIES

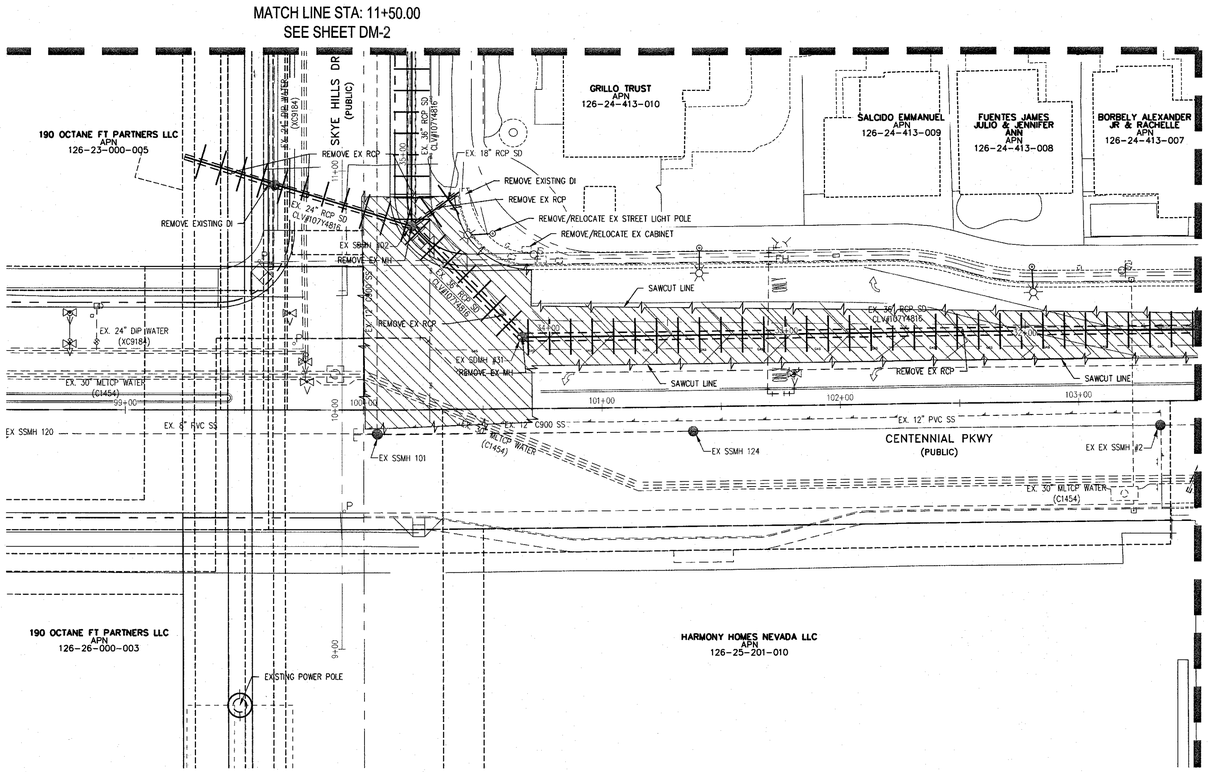
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OLY1923-000

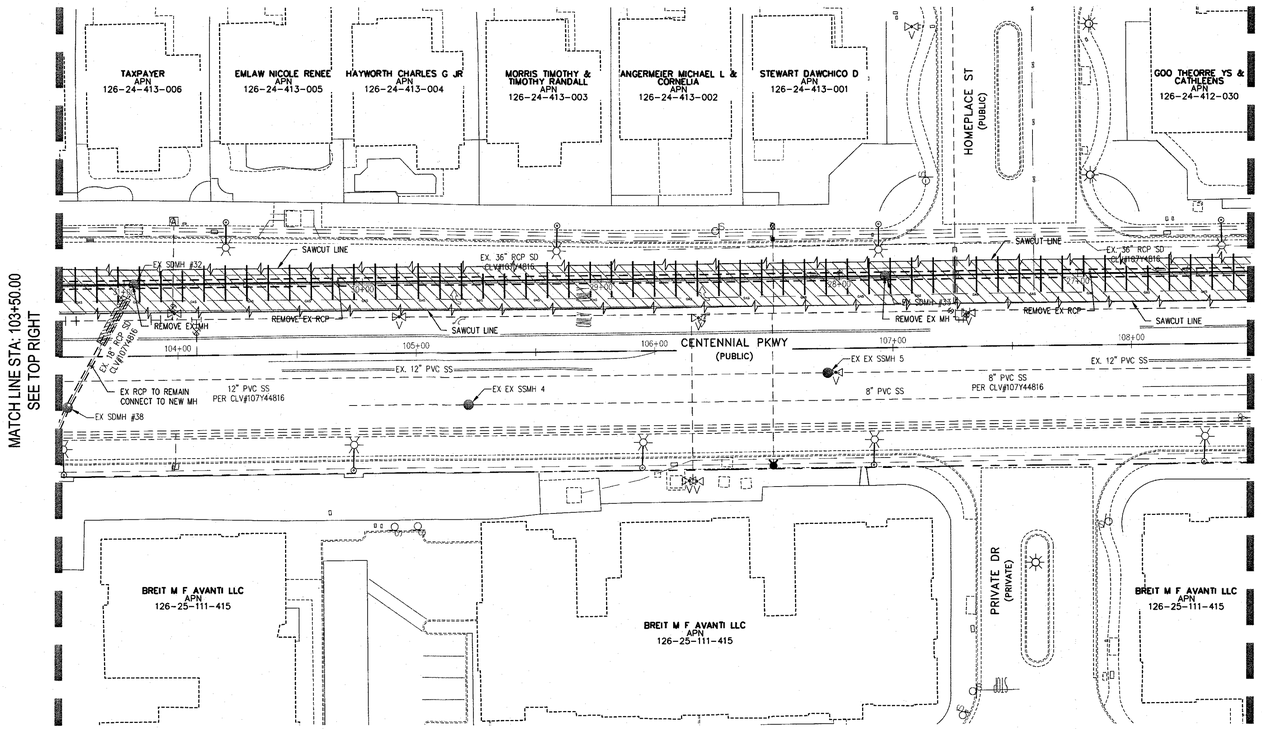
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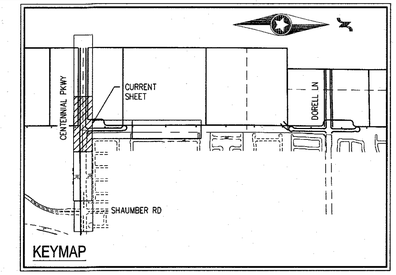
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CENTENNIAL PKWY - PLAN VIEW
PUBLIC



CENTENNIAL PKWY - PLAN VIEW
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KEYMAP

EASEMENT NOTE
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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES
(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY, REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
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SURVEY NOTE
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FLOOD ZONE
THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 500 YEAR FLOODPLAIN), PER THE FEMA FIRM PANELS 1750 DATED SEPTEMBER 27, 2002

FLOOD CERTIFICATION
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE







Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY DEMOLITION PLAN 1

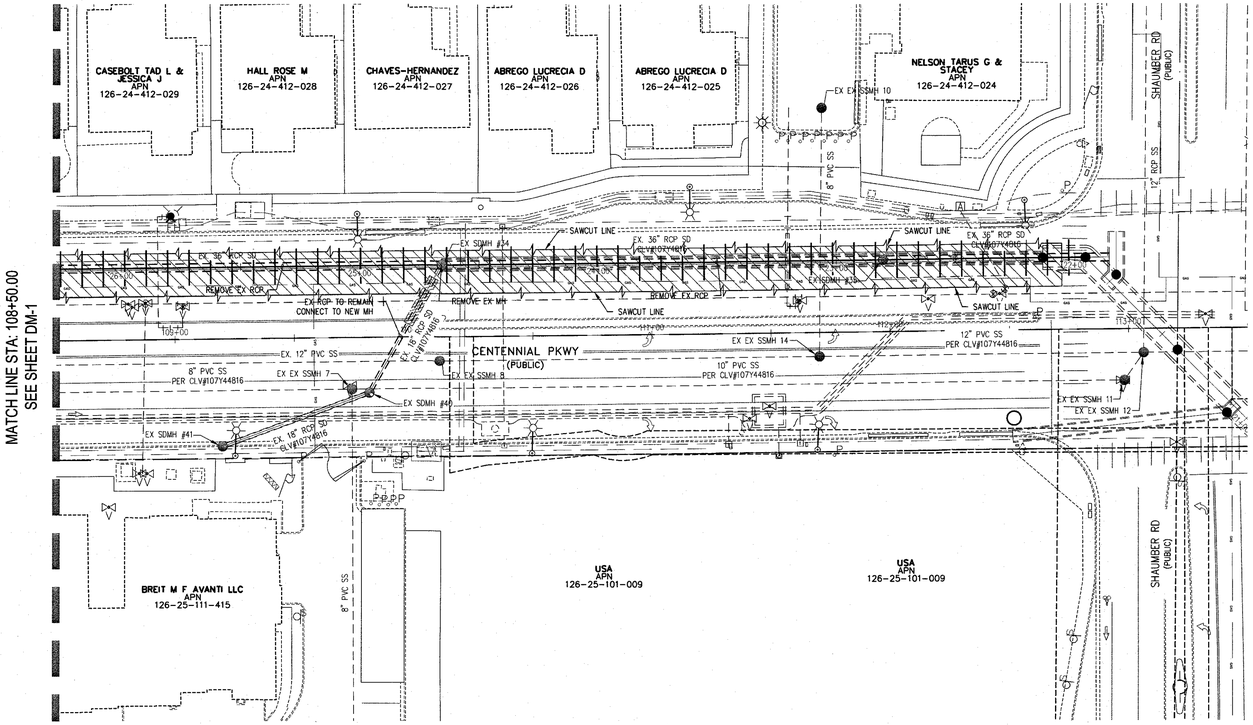
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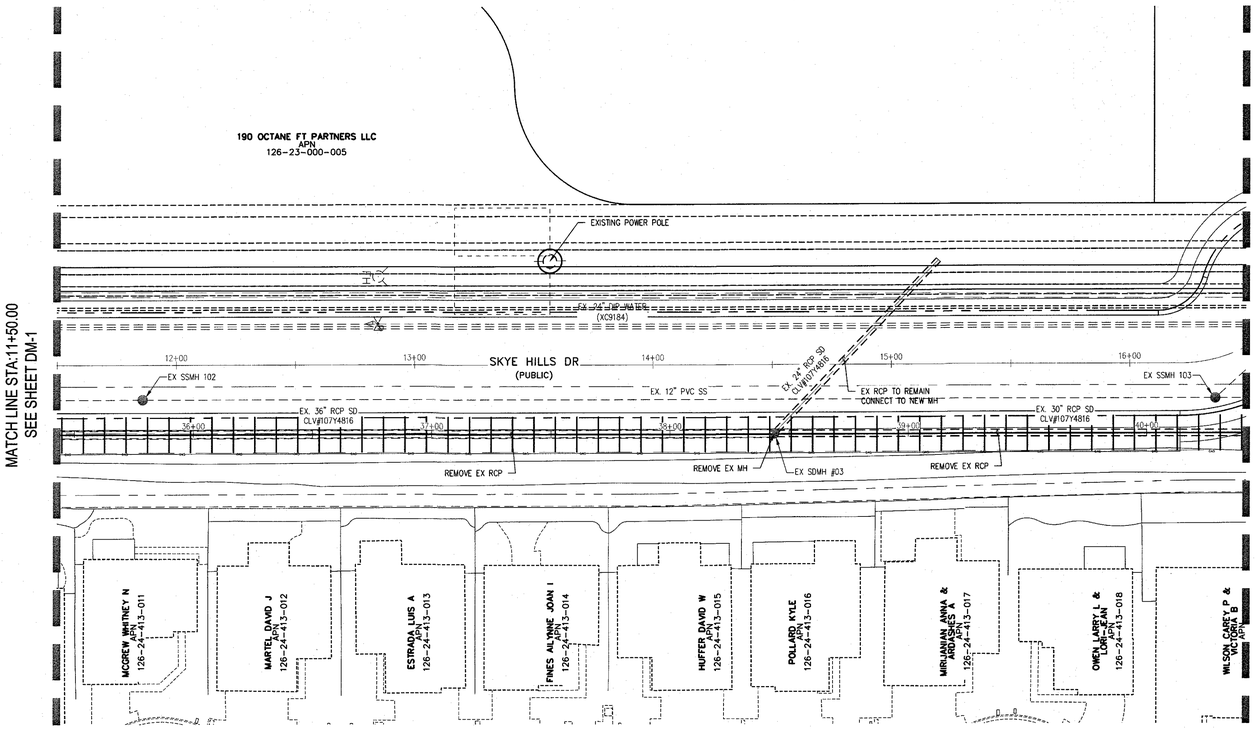
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JOSHUA L. JOHNSON, LIC. NO. 15789
Exp. 06/30/2021
CIVIL
7/1/20

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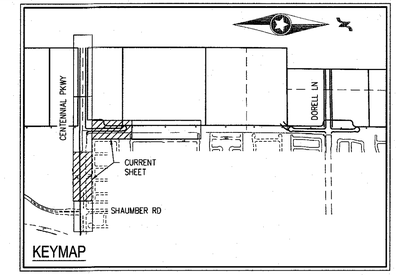
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CENTENNIAL PKWY - PLAN VIEW
PUBLIC



SKYE HILLS DR - PLAN VIEW
(PUBLIC)



KEYMAP

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FLOOD CERTIFICATION

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JOSH JOHNSON, P.E. 15789 DATE







Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
DEMOLITION PLAN 2

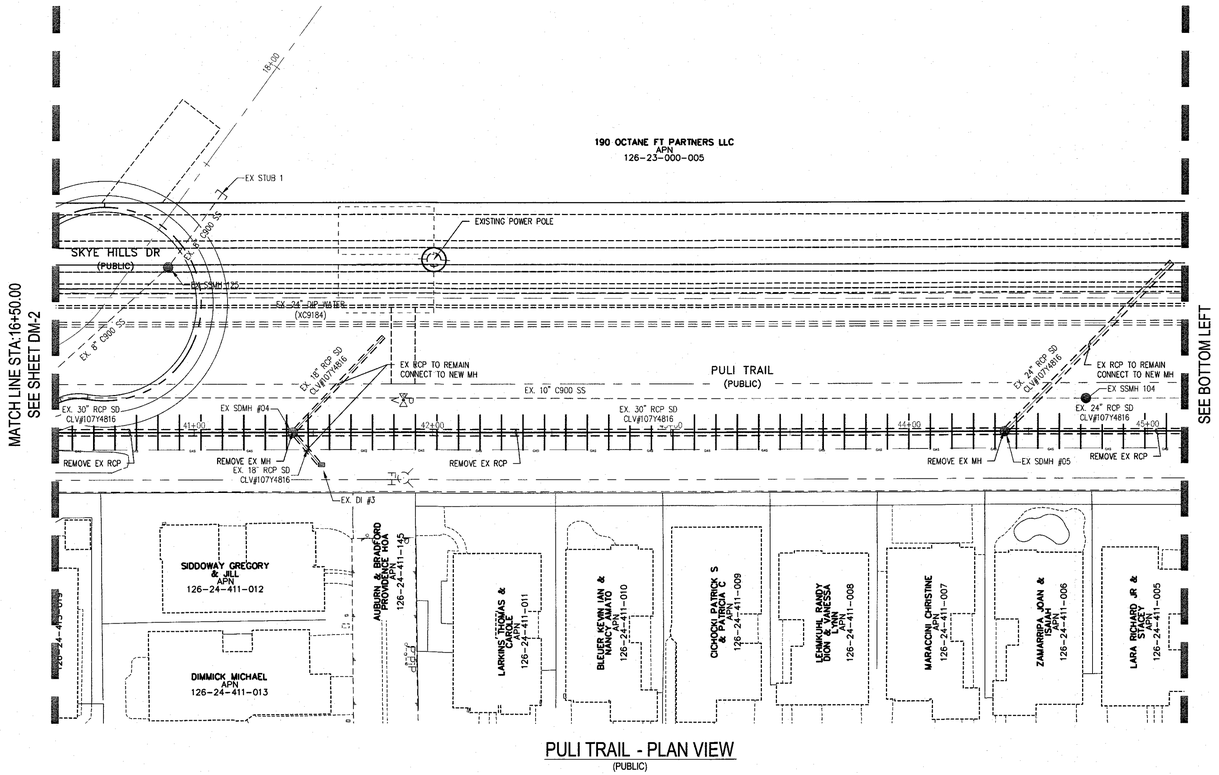
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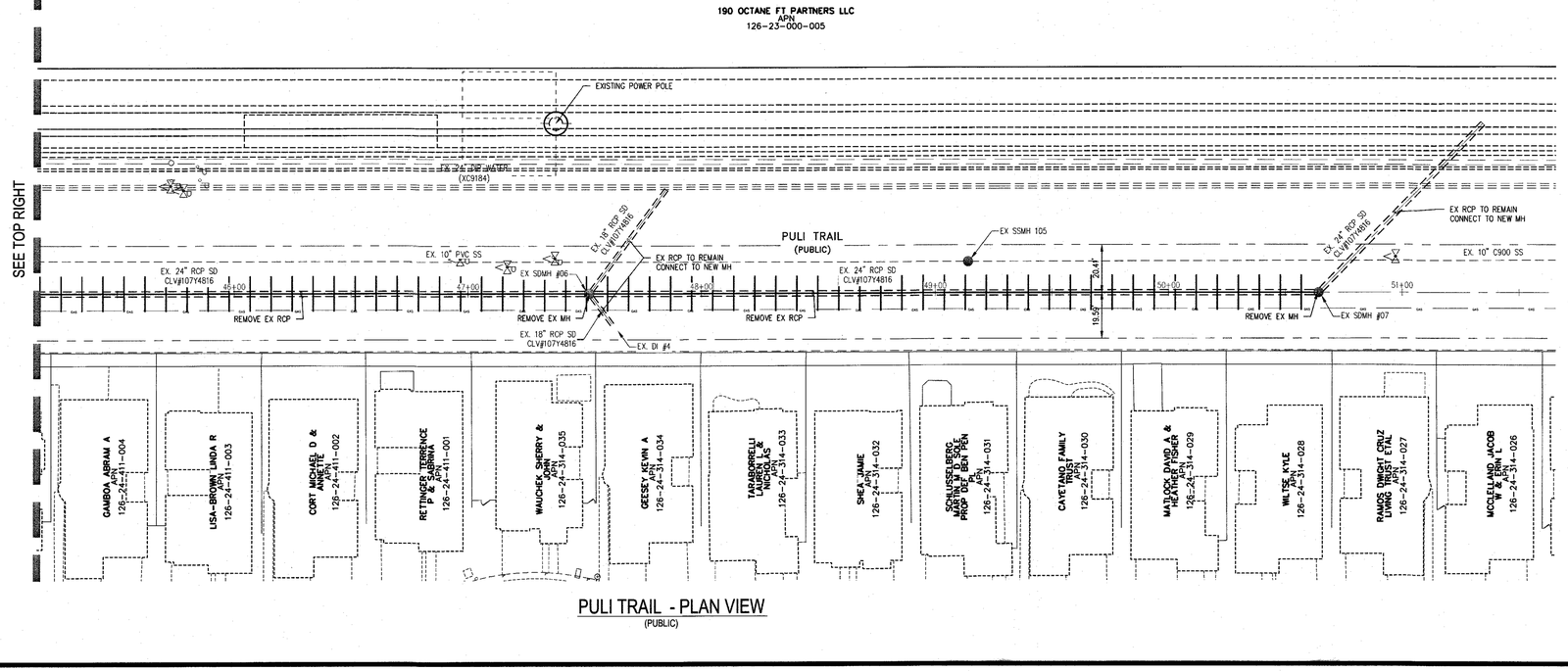
PROFESSIONAL ENGINEER - STATE OF NEVADA
JOSHUA L. JOHNSON
No. 15789
CIVIL
5/20/2021

DM-2
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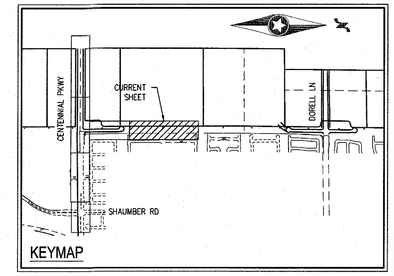
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PULI TRAIL - PLAN VIEW
(PUBLIC)



PULI TRAIL - PLAN VIEW
(PUBLIC)



KEYMAP

EASEMENT NOTE

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JOSH JOHNSON, P.E. 15789 DATE



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CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
DEMOLITION PLAN 3

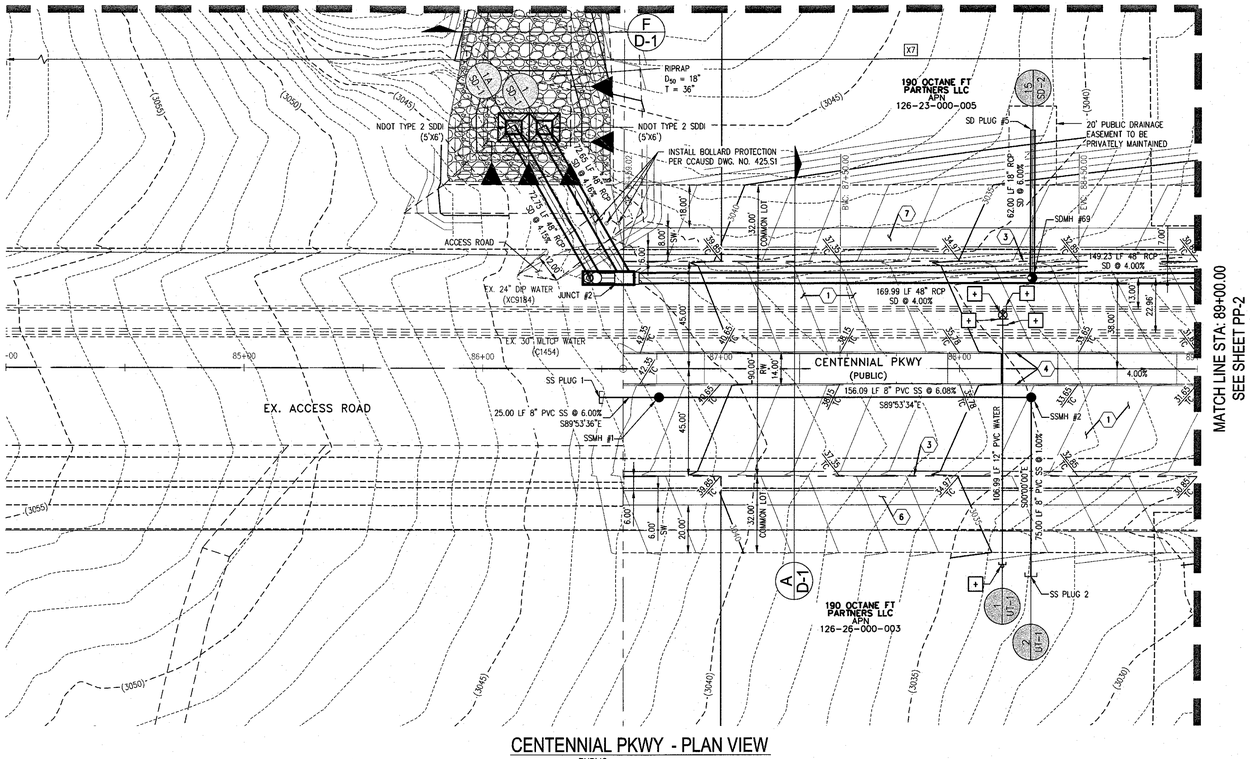
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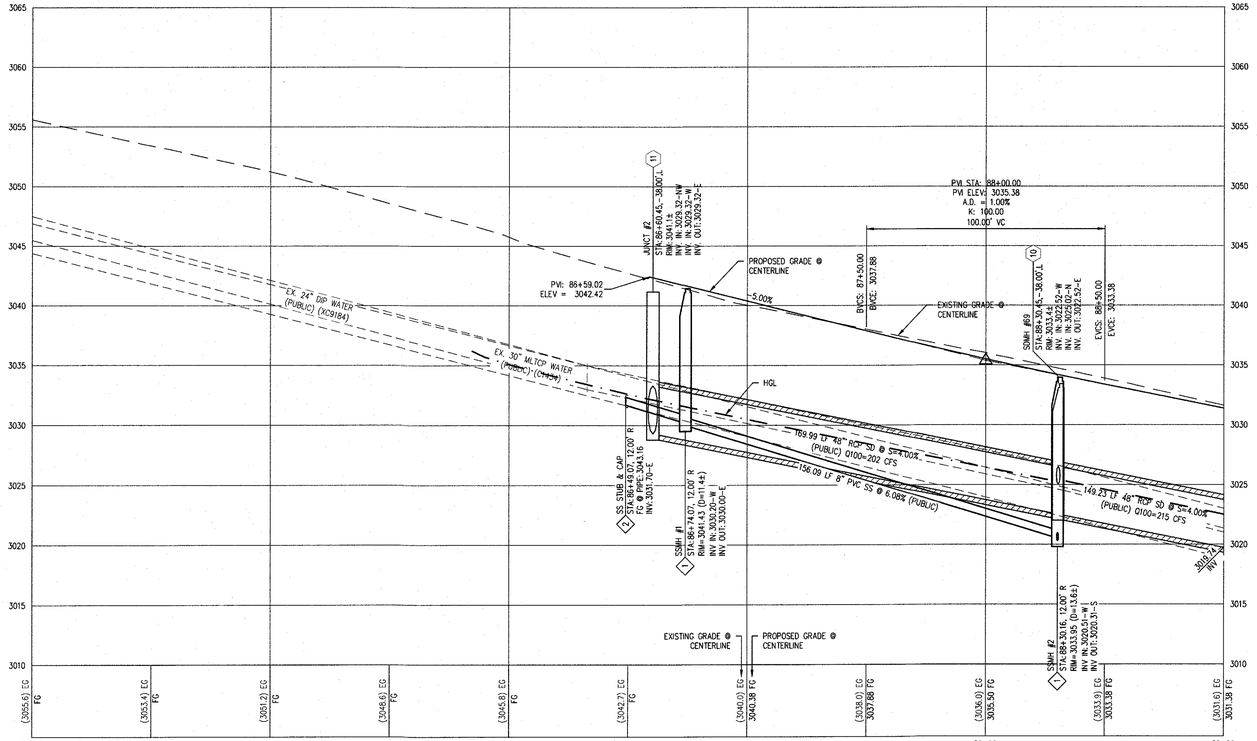
PROFESSIONAL ENGINEER STATE OF NEVADA
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Exp. 06/30/2021
CIVIL
7/7/20

DM-3
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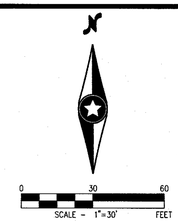
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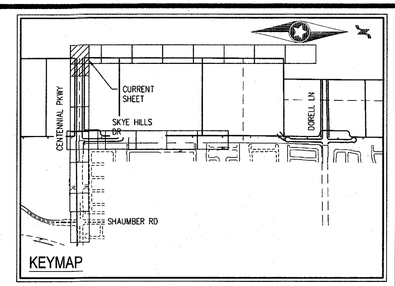


CENTENNIAL PKWY - PLAN VIEW
PUBLIC



CENTENNIAL PKWY - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

NOTES

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3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
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10. WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

    CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS; BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

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1. CONSTRUCT A.C. PAVEMENT WITH AGGREGATE BASE PER SECTIONS ON SHEET D-1
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9. INSTALL 48" TYPE II-SD MANHOLE PER CCAUSD DWG. NO. 401 & 405.2
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13. INSTALL TYPE "CM2" DROP INLET (SIZE PER PLAN) PER CCAUSD DWG. NO 412.1 & 421
14. INSTALL NDOT TYPE 2 DROP INLET (5'X6') PER NDOT STD. DWG. DS-32, SEE DETAIL 1, SHEET D-2
15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
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2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

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CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER; I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE"

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD _____ FIRST APPROVED DATE: _____

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
2) FOR ROADWAY WIDENING and HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

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FAST
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FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811 OR 1-800-227-2600

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5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

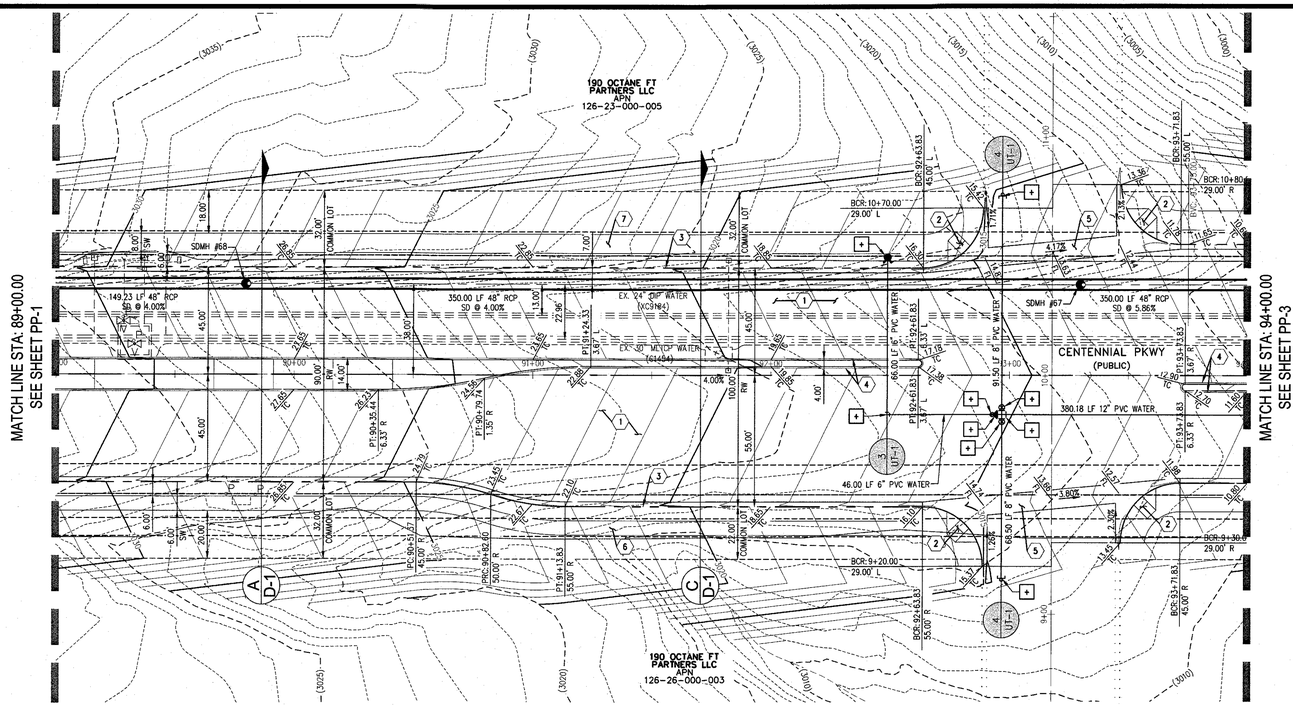
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY PLAN & PROFILE 1

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

NEVADA PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSHUA L. JOHNSON - Exp. 06/30/2021 - CIVIL - No. 15789

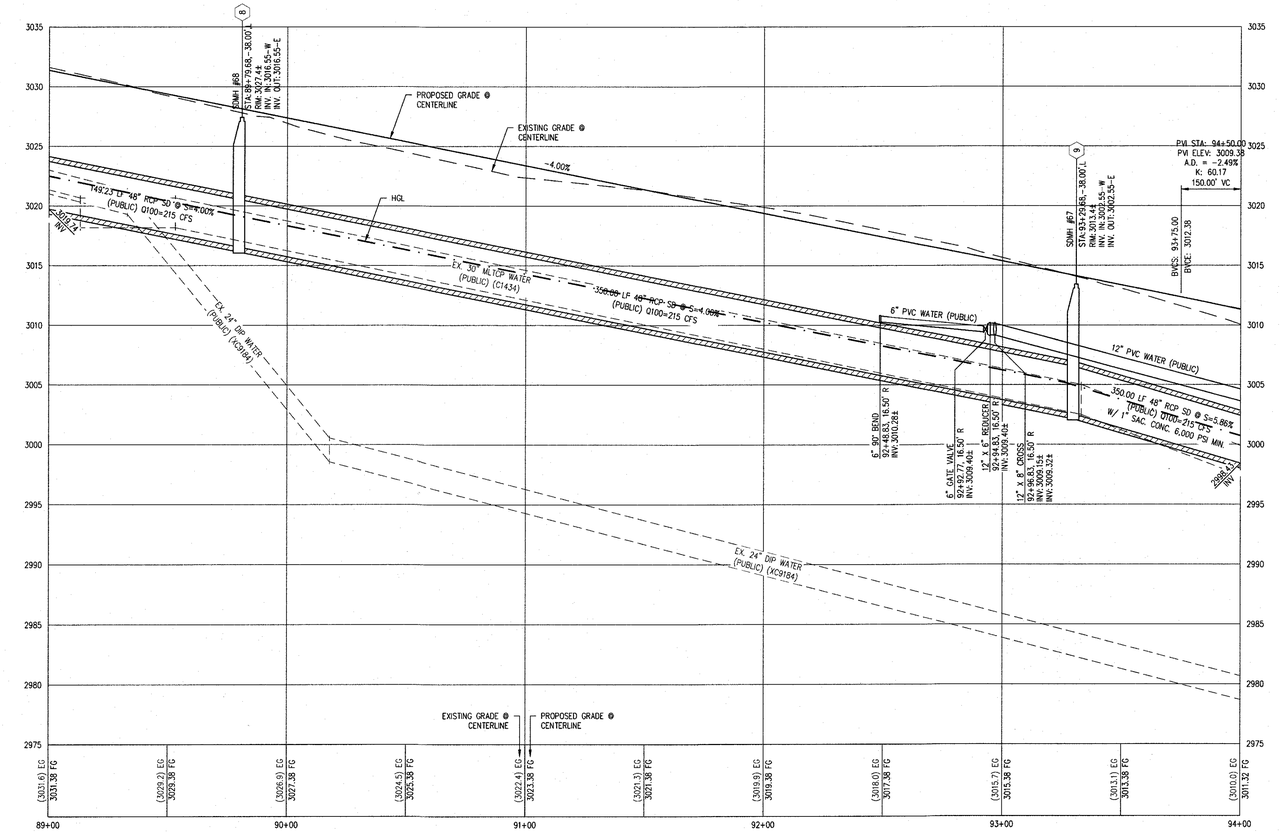
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SHEET 7 OF 50

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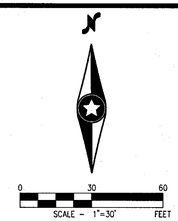
CENTENNIAL PKWY - PLAN VIEW

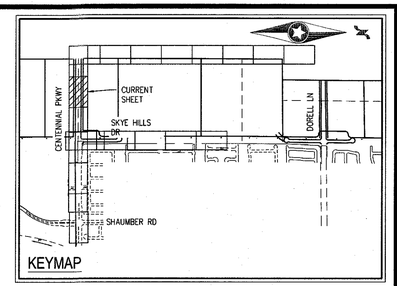
PUBLIC



CENTENNIAL PKWY - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 _____ DATE

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FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

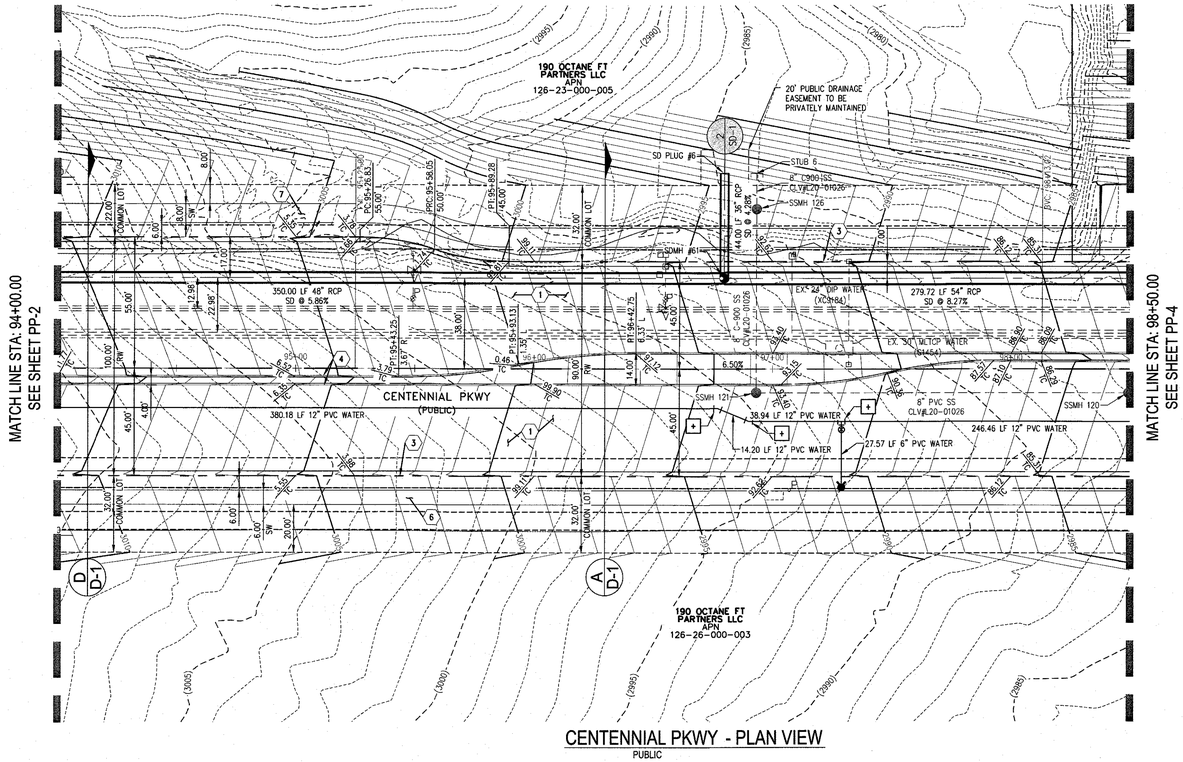
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY PLAN & PROFILE 2

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

NEVADA — JOSHUA L. JOHNSON — No. 15789 — 7/20/2021 — PROFESSIONAL ENGINEER — STATE OF

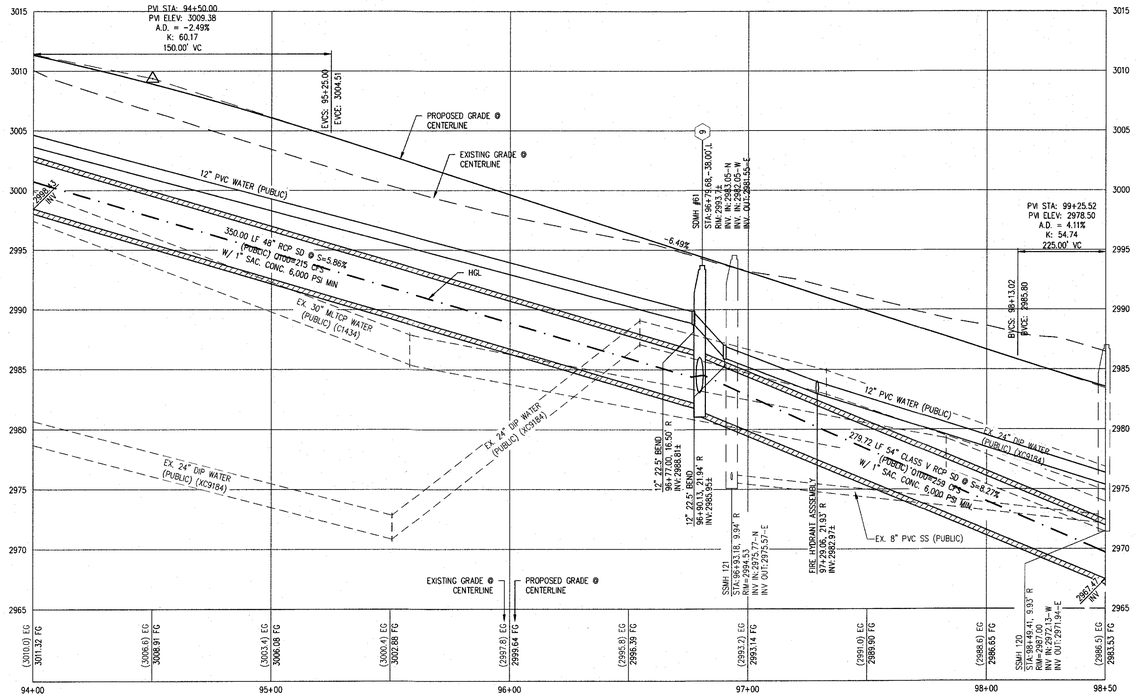
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SHEET 8 OF 50

L:\oly1923-000 bim 270 infrastructure\dwg\improv\centennial pkwy\oly1923-000 cs geo.dwg 7/7/2020 12:12 PM Cole Stubitz



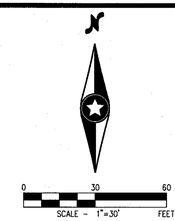
CENTENNIAL PKWY - PLAN VIEW

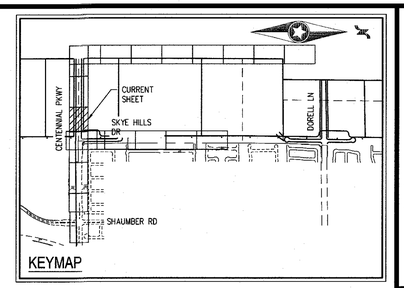
PUBLIC



CENTENNIAL PKWY - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
9. ???
10. ???

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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
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GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

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IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER: I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE".

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FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
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FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY PLAN & PROFILE 3

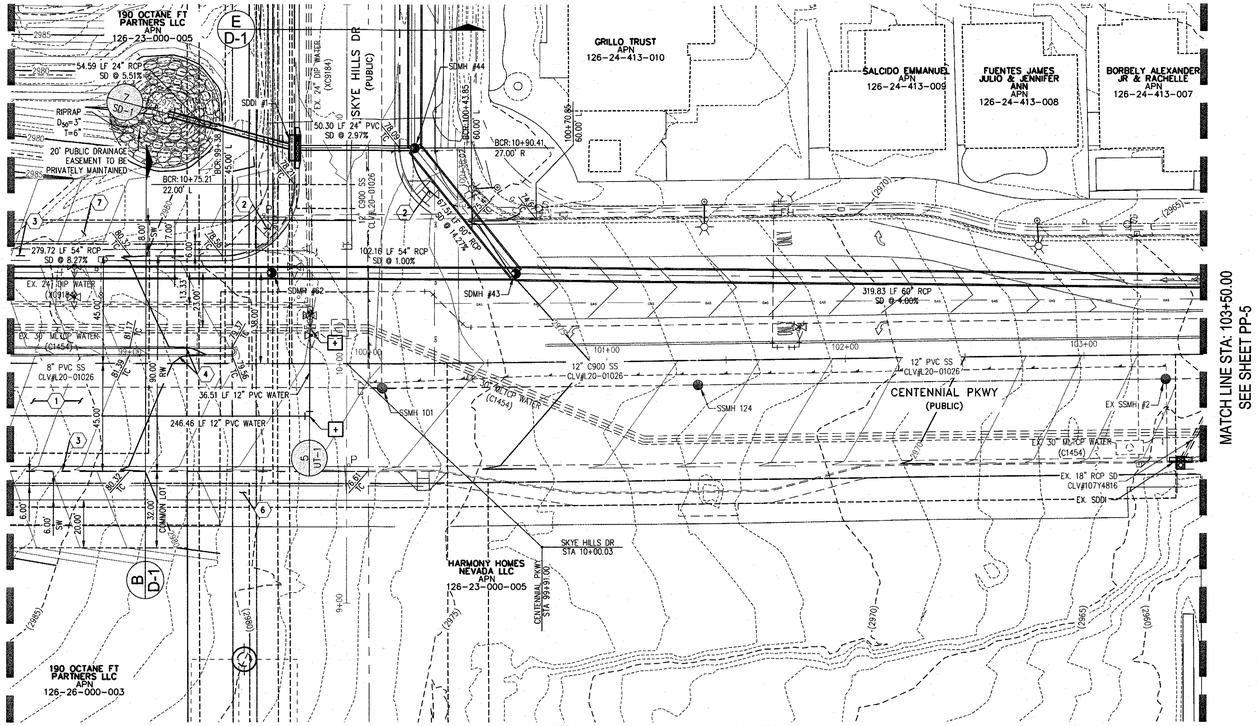
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DRAFTER: TD
DESIGNER: JJ
CHECKED: JJ

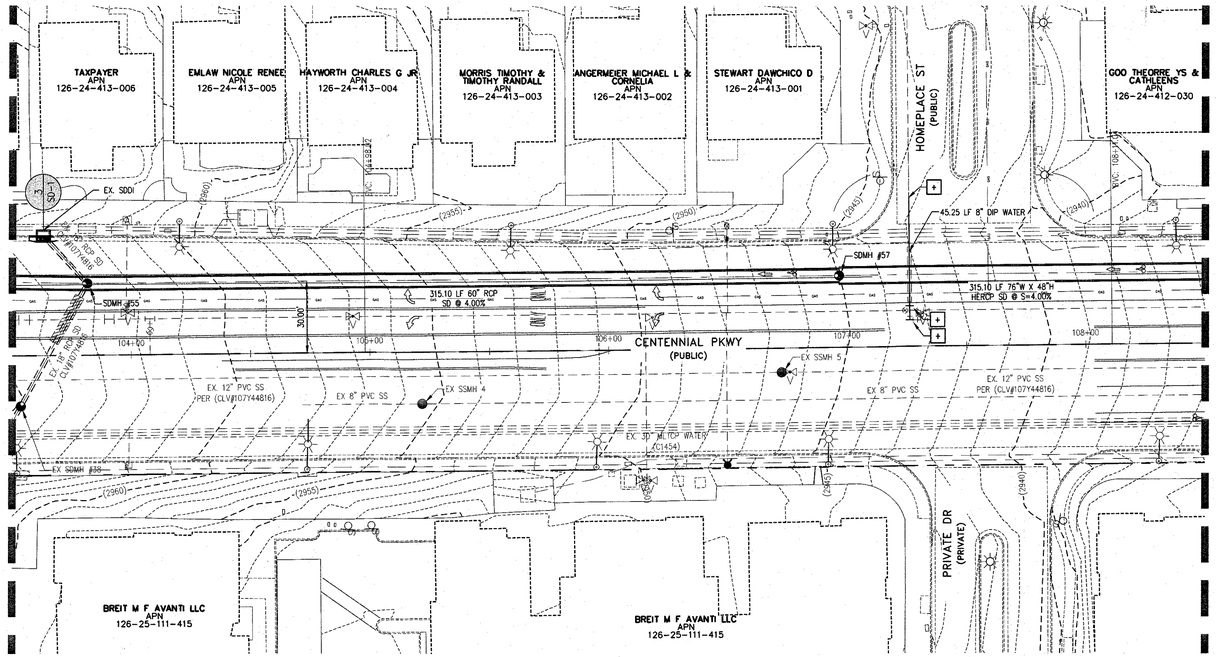
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSHUA L. JOHNSON - No. 15789 - Exp. 06/30/2021 - CIVIL - 7/1/20

PP-3
SHEET 9 OF 50

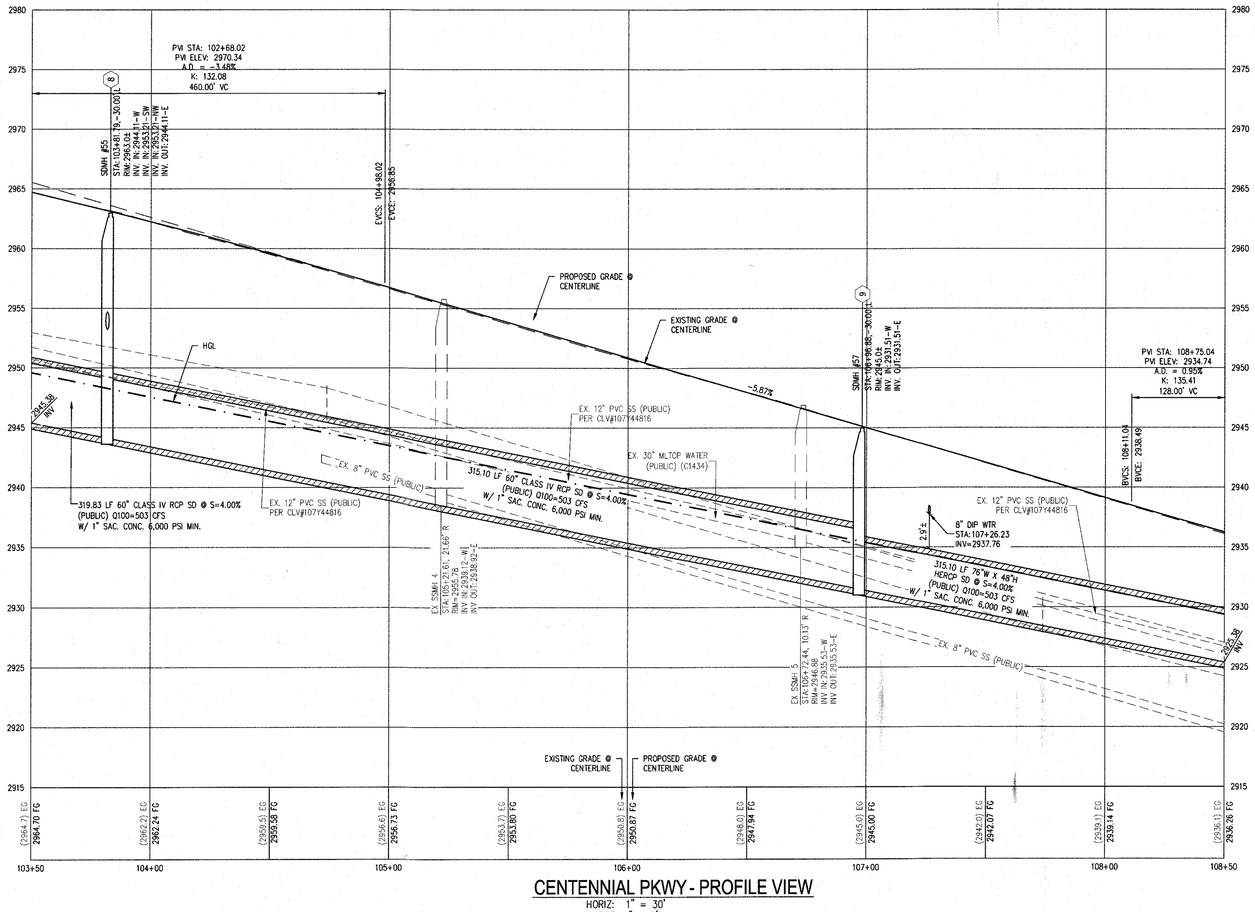
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190 OCTANE FT PARTNERS LLC
APN
126-23-000-005
GRILLO TRUST
APN
126-24-413-010
SALCIDO EMMANUEL
APN
126-24-413-009
FUENTES JAMES JULIO & JENNIFER ANN
APN
126-24-413-008
BORBELY ALEXANDER JR & RACHELLE
APN
126-24-413-007
SKYE HILLS DR
(PUBLIC)
54.59 LF 24" RCP
SD @ 5.51%
RIPRAP
D50=3"
T=6"
20' PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED
50.30 LF 24" PVC
SD @ 2.97%
SDMH #44
SDDI #1
BCR: 10+75.21
22.00' L
BCR: 10+90.41
27.00' R
279.72 LF 54" RCP
SD @ 8.27%
102.16 LF 54" RCP
SD @ 1.00%
SDMH #42
SDMH #43
319.83 LF 60" RCP
SD @ 4.00%
EX. 24" HDPE WATER (X03184)
EX. 24" DIP WATER (X03194)
EX. 24" HDPE WATER (X03195)
EX. 24" DIP WATER (X03196)
EX. 24" DIP WATER (X03197)
EX. 24" DIP WATER (X03198)
EX. 24" DIP WATER (X03199)
EX. 24" DIP WATER (X03200)
EX. 24" DIP WATER (X03201)
EX. 24" DIP WATER (X03202)
EX. 24" DIP WATER



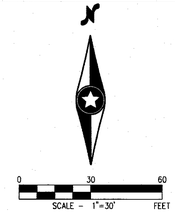
CENTENNIAL PKWY - PLAN VIEW

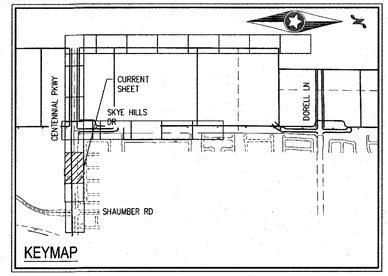
PUBLIC



CENTENNIAL PKWY - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
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WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
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10. ???

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FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD ___ FIRST APPROVED DATE:_____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

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FAST
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5740 S. Arville Street
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Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoods.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP DATE	APP

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY PLAN & PROFILE 5

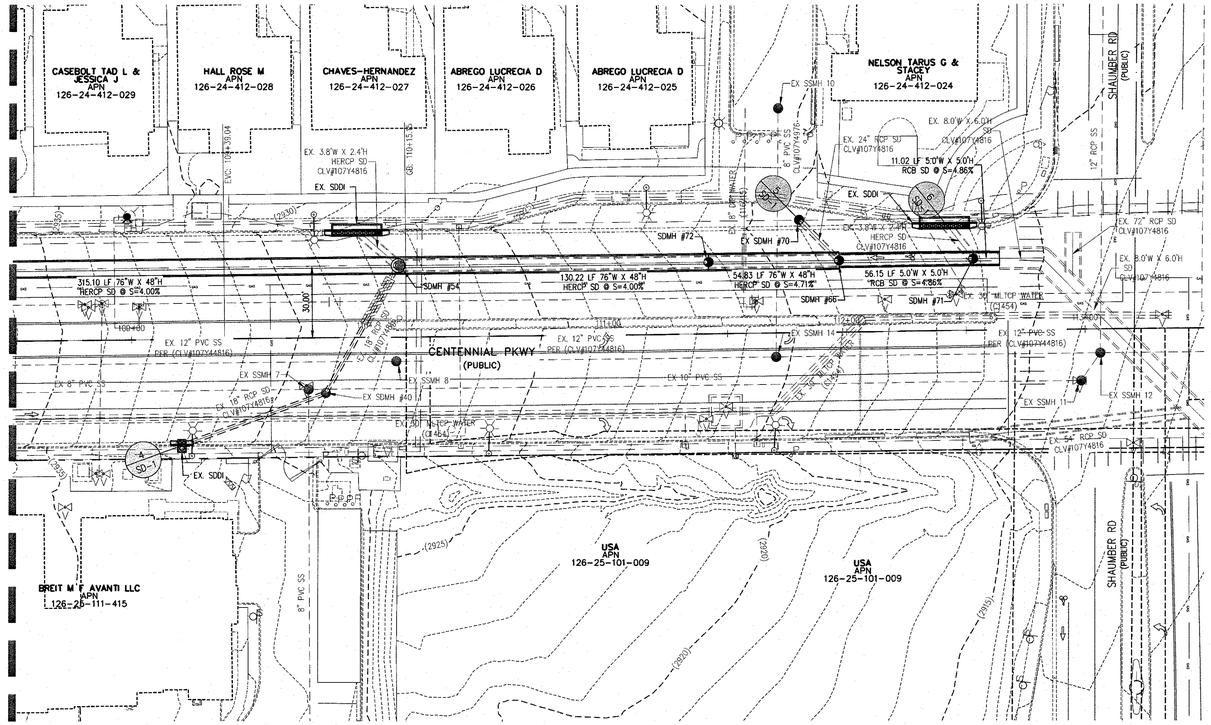
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DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

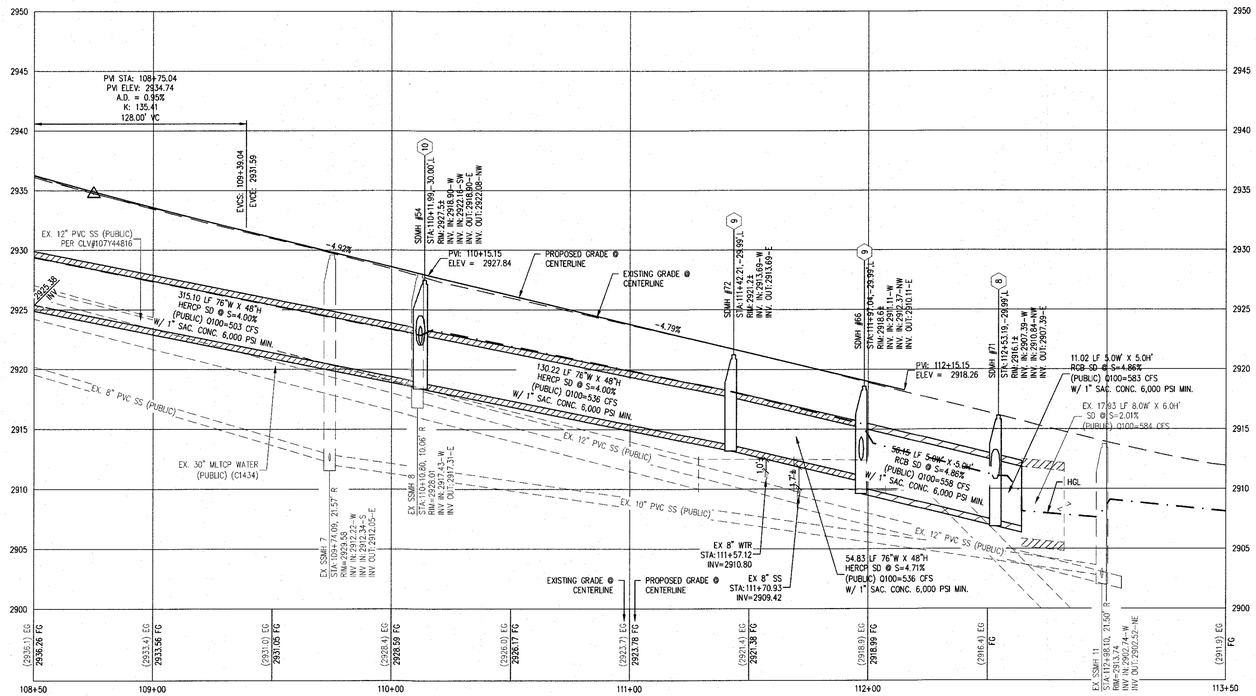
PROFESSIONAL ENGINEER JOSHUA JOHNSON STATE OF NEVADA EXP. 06/30/2021 No. 15789 7/7/20

PP-5
SHEET 11 OF 50

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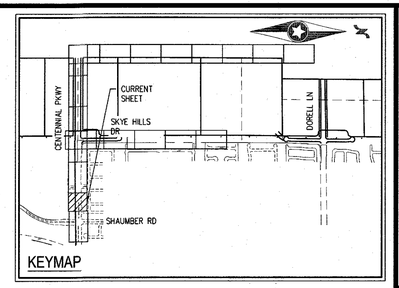


CENTENNIAL PKWY - PLAN VIEW
PUBLIC



CENTENNIAL PKWY - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
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10. WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

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REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

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15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

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CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

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FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FIMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

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FAST
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1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
PLAN & PROFILE 6

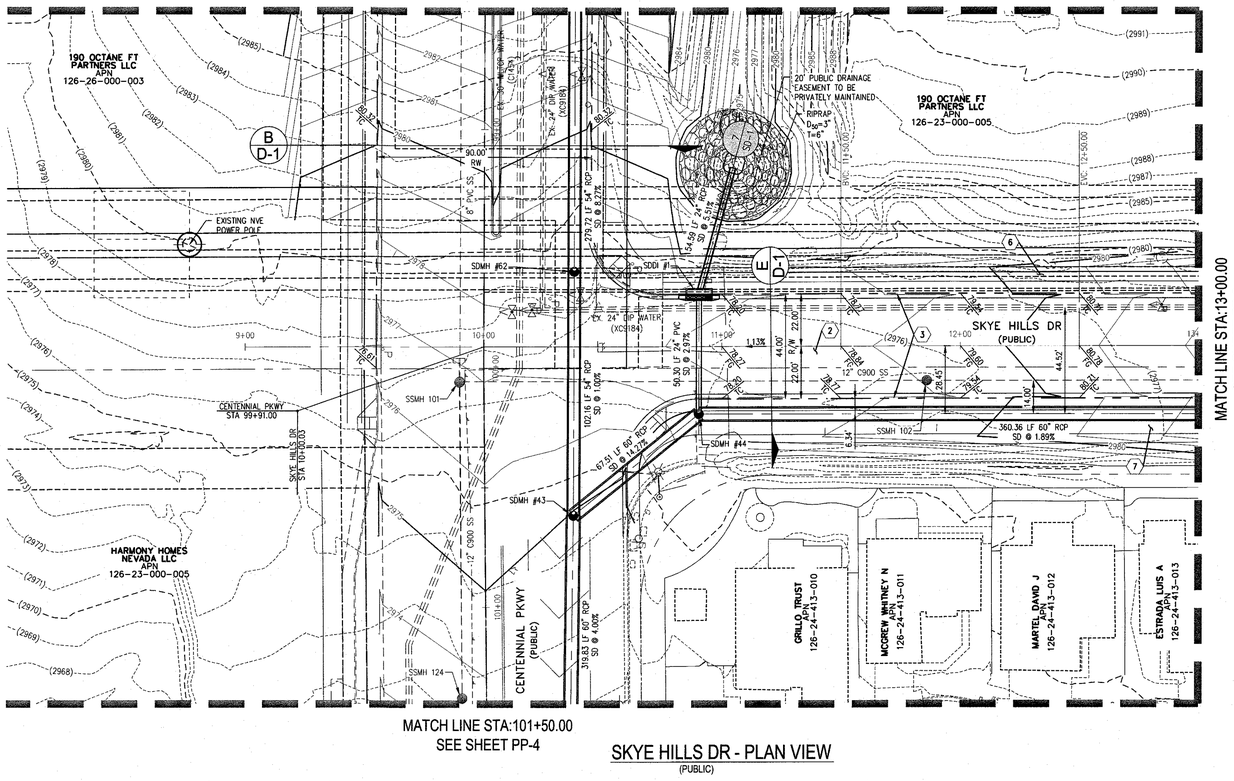
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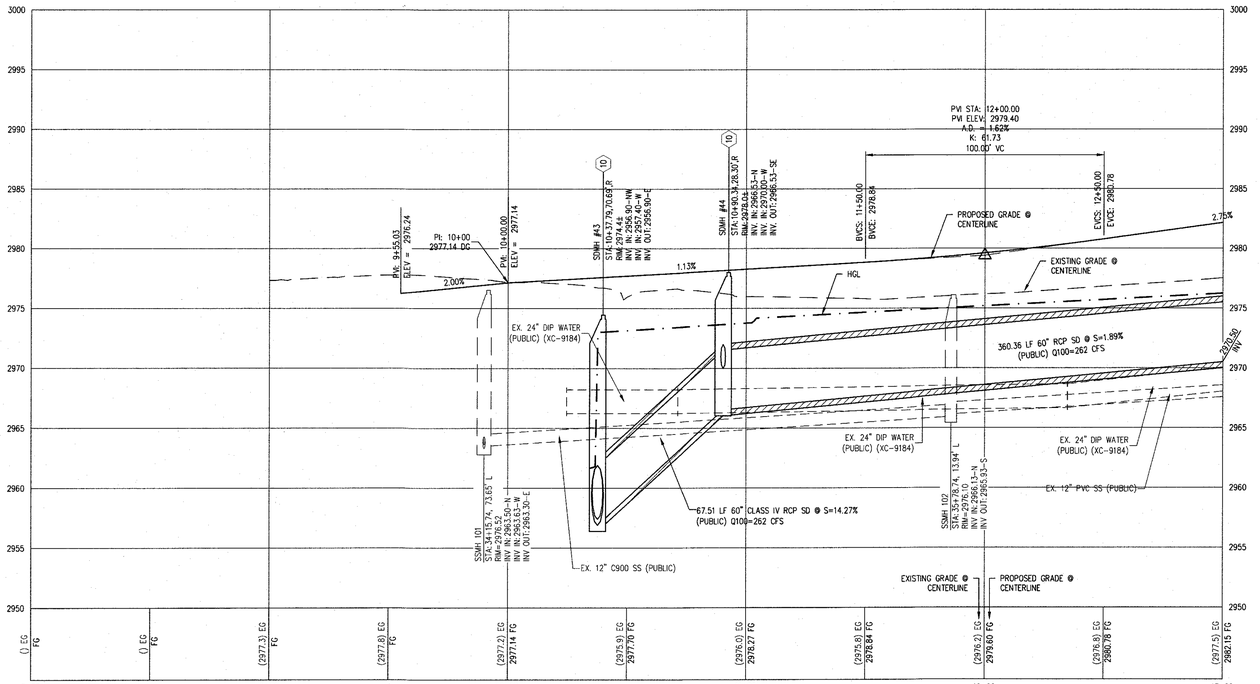
PROFESSIONAL ENGINEER STATE OF NEVADA
JOSHUA L. JOHNSON
No. 15789
Exp. 06/30/2021
CIVIL
7/20

PP-6
SHEET 12 OF 50

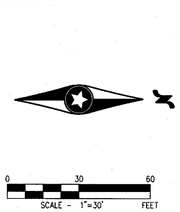
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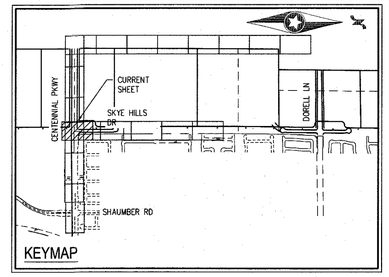


SKYE HILLS DR - PLAN VIEW
(PUBLIC)



SKYE HILLS DR - PROFILE VIEW
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APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

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Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP DATE	APP

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

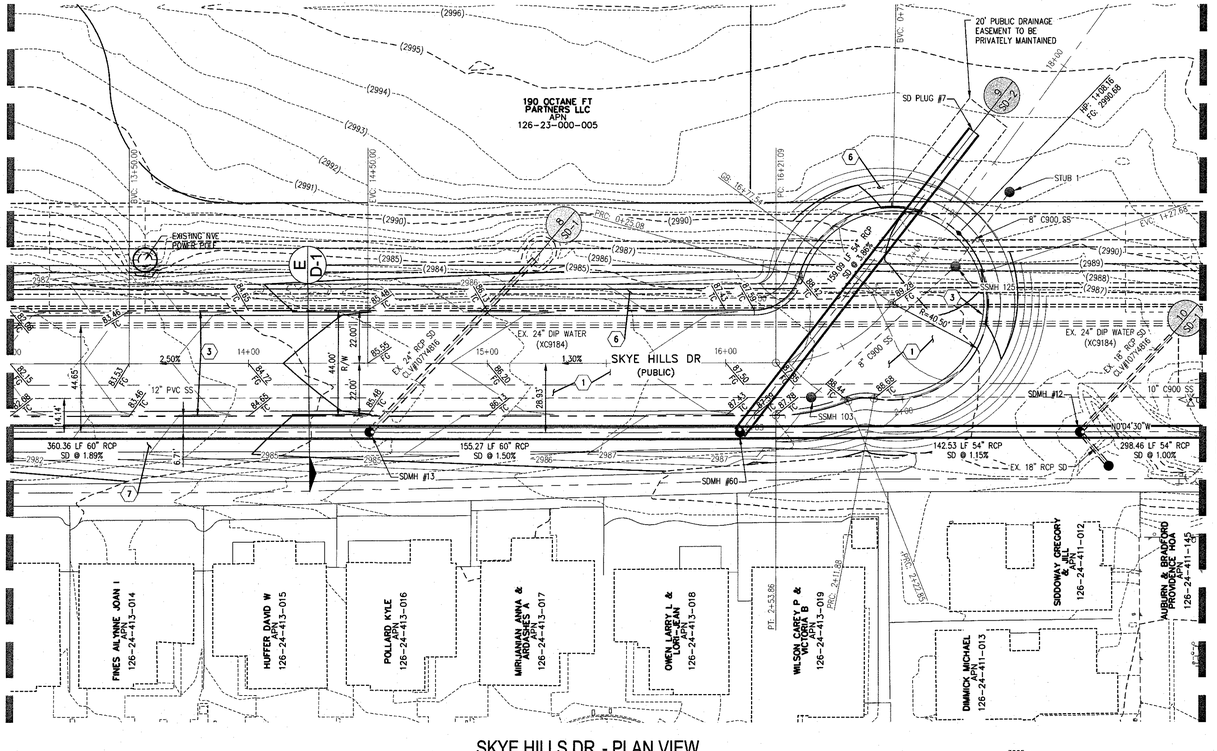
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY PLAN & PROFILE 7

DATE: 5/12/2020
DRAFTER: TD
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CHECKED: JJ
PROJECT NO. OLY1923-000

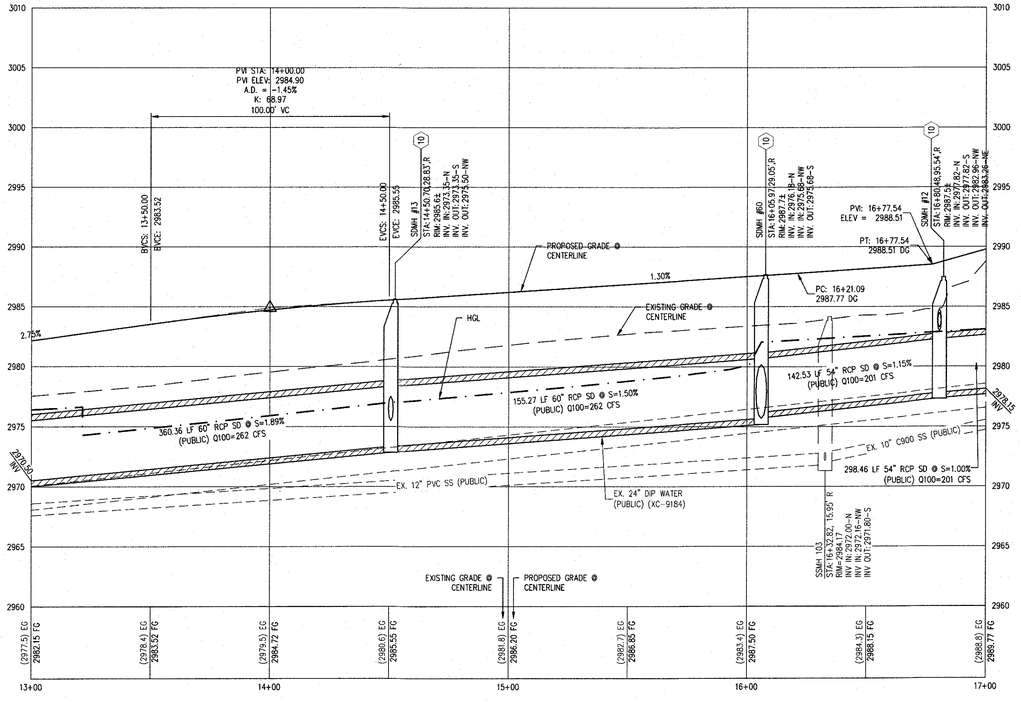
PROFESSIONAL ENGINEER STATE OF NEVADA JOSHUA L. JOHNSON No. 15789 Exp. 06/30/2021 CIVIL 7/7/20

PP-7
SHEET 13 OF 50

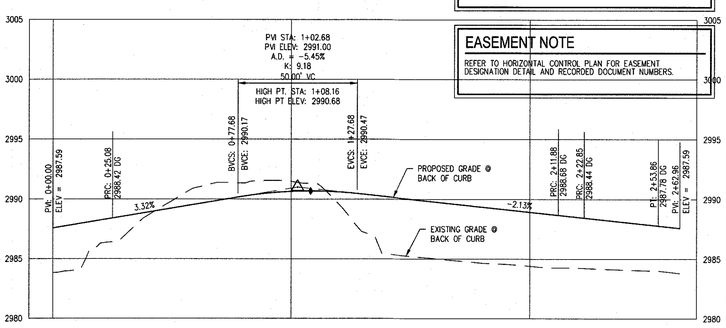
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SKYE HILLS DR - PLAN VIEW
(PUBLIC)



SKYE HILLS DR - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'



TC(0+00.00/2+62.96)=16+11.99, 22.0' - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'

SEWER NOTES
1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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TRANSMISSION MAIN STRUCTURAL SUPPORT
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IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER; I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE".

CONSTRUCTION NOTES
1. CONSTRUCT A.C. PAVEMENT WITH AGGREGATE BASE PER SECTIONS ON SHEET D-1
2. CONSTRUCT SIDEWALK RAMP PER CCAUSD DWG. NO. 235, CASE II
3. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD DWG. NO. 216
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD DWG. NO. 219
5. CONSTRUCT 8' CROSS GUTTER PER CCAUSD DWG. NO. 228
6. CONSTRUCT 6' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
7. CONSTRUCT 8' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
8. INSTALL 48" TYPE I MANHOLE PER CCAUSD DWG. NO. 401 & 403
9. INSTALL 48" TYPE II-SD MANHOLE PER CCAUSD DWG. NO. 401 & 405.2
10. INSTALL 60" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
11. CONSTRUCT JUNCTION STRUCTURE PER STRUCTURAL DETAIL X ON SHEET S-1
12. CONSTRUCT 72" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
13. INSTALL TYPE "CM2" DROP INLET (SIZE PER PLAN) PER CCAUSD DWG. NO 412.1 & 421
14. INSTALL NDOT TYPE 2 DROP INLET (5'X6') PER NDOT STD. DWG. 09-32, SEE DETAIL 1, SHEET D-2
15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES
1. ???
2. ???
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GRADING NOTES
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2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

DISCLAIMER NOTE
1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES
(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN EMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

SURVEY NOTE
OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE
THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD FIRST APPROVED DATE: _____

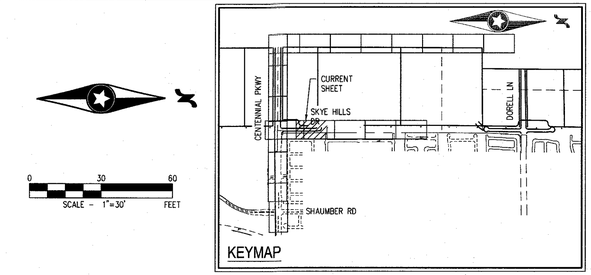
FLOOD CERTIFICATION
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600



Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

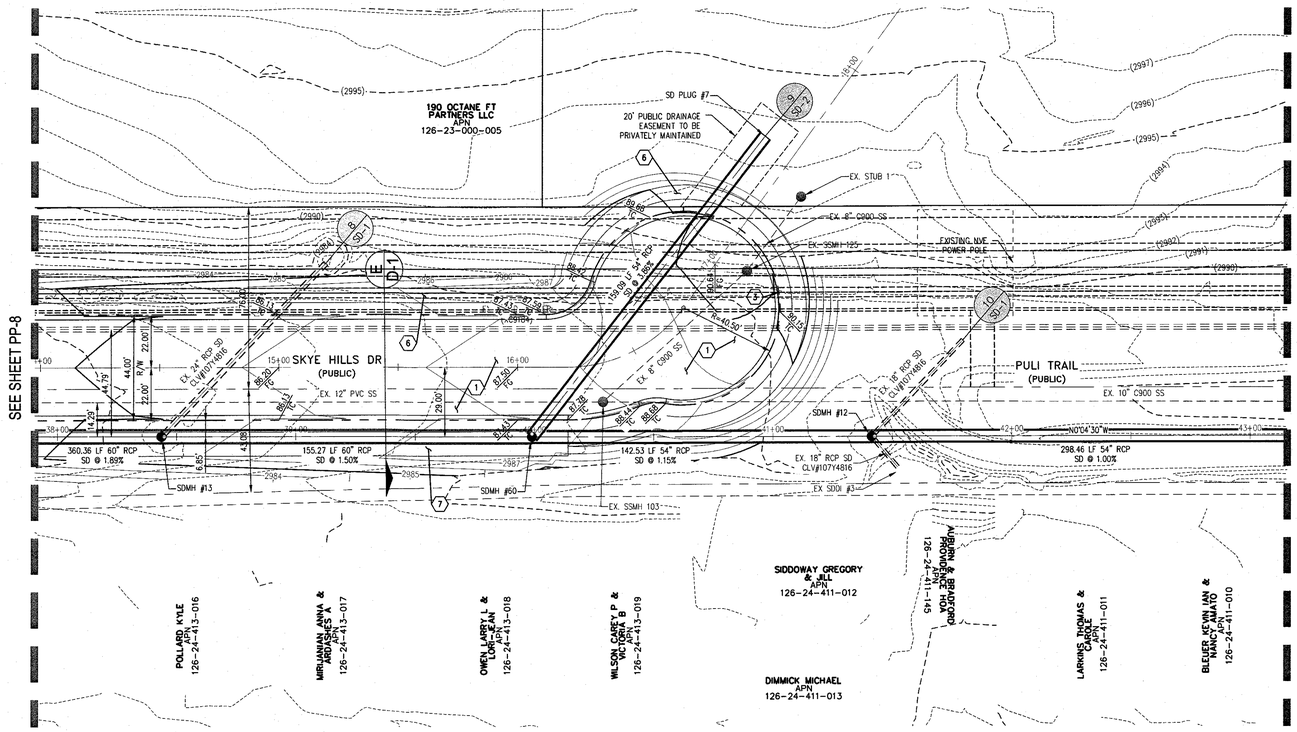
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
PLAN & PROFILE 8

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER STATE OF NEVADA JOSHUA JOHNSON No. 15789 EXP. 12/31/2021 CIVIL 7/7/20

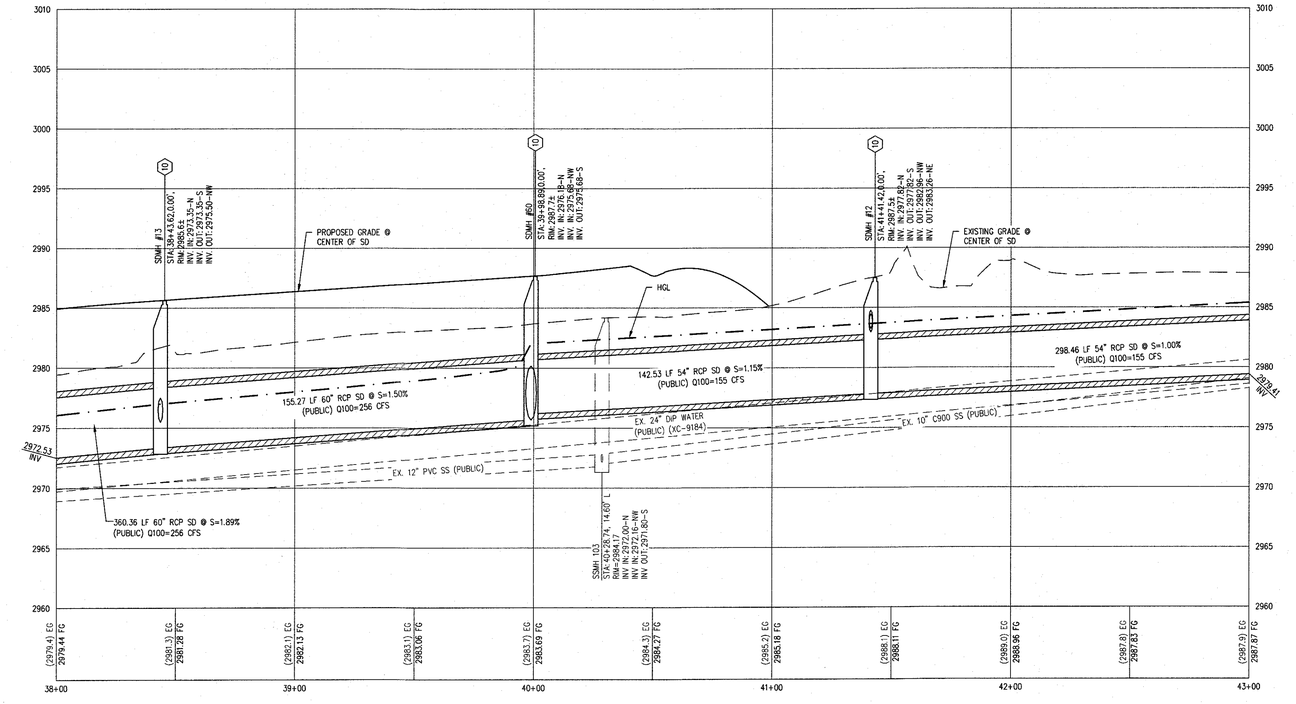
PP-8
SHEET 14 OF 50

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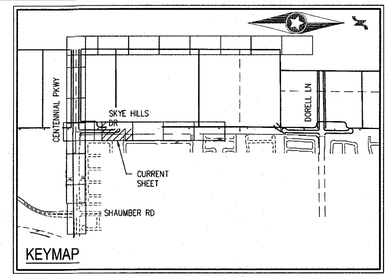
OFF-SITE STRM - PLAN VIEW

PUBLIC



OFF-SITE STRM - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



0 30 60
SCALE - 1"=30' FEET

SEWER NOTES

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WATER NOTES

1. ???
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE:_____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
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OR
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Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE SD PLAN & PROFILE 1

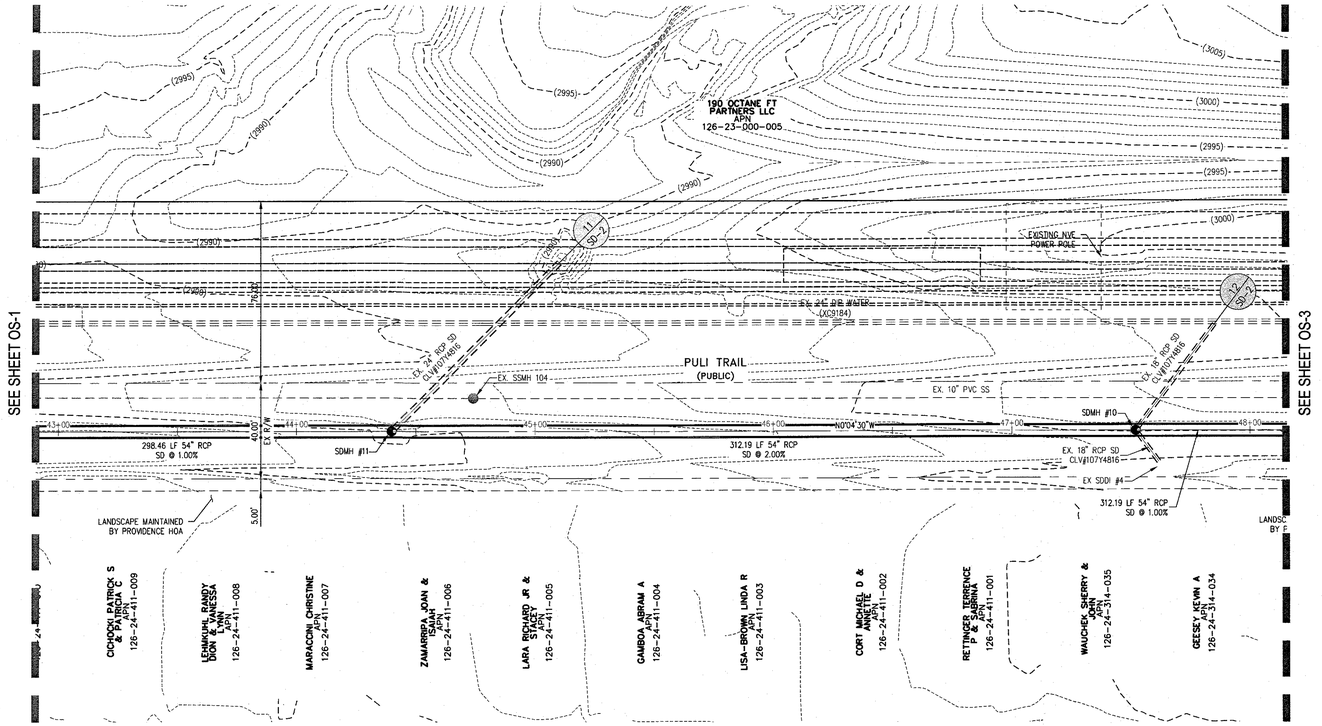
DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000



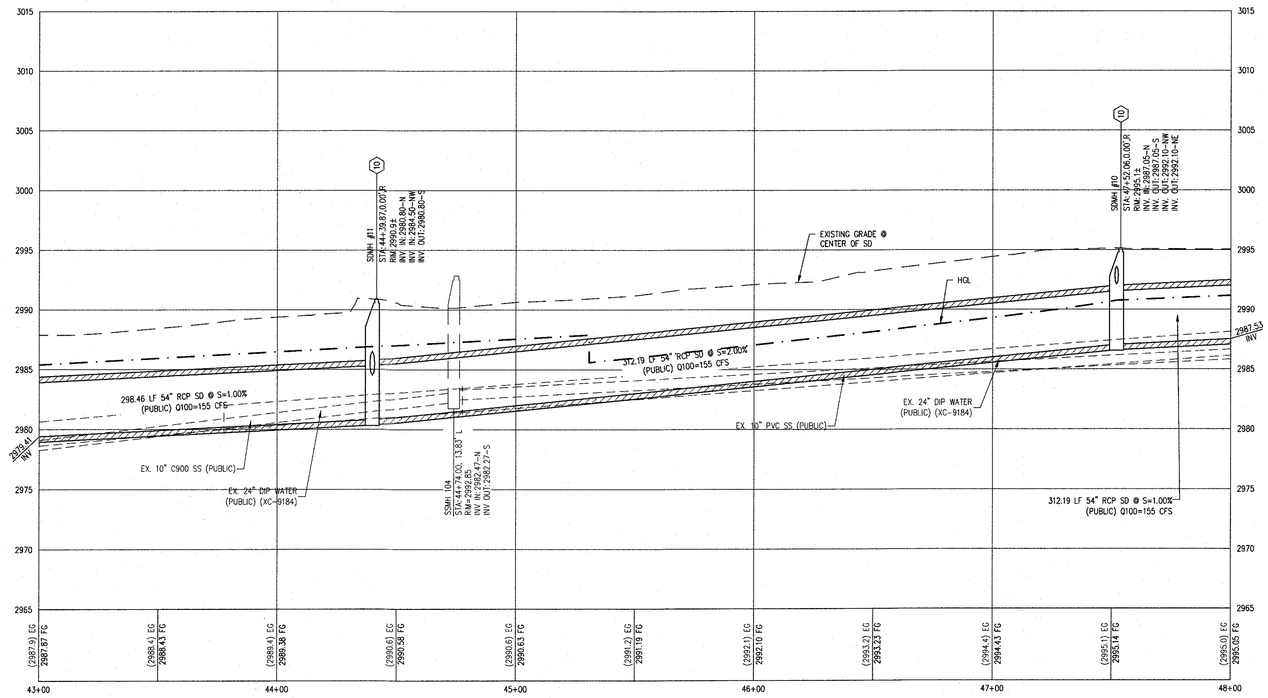
OS-1
SHEET 15 OF 50

J:\olv\1923-000 blm 270 infrastructure\cad\plans\centennial pkwy\olv1923-000 os plan.dwg 7/7/2020 12:14 PM Cole Shuler



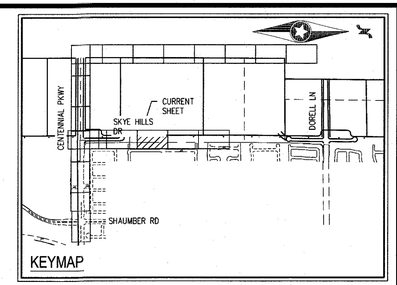
OFF-SITE STRM - PLAN VIEW

PUBLIC



OFF-SITE STRM - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



KEYMAP

0 30 60
SCALE - 1"=30' FEET

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2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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WATER NOTES

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6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
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TRANSMISSION MAIN STRUCTURAL SUPPORT

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IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER: I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE".

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OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY OS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
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FAST
Call before you UnderGround
1-702-432-5300
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Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
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Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE SD PLAN & PROFILE 2

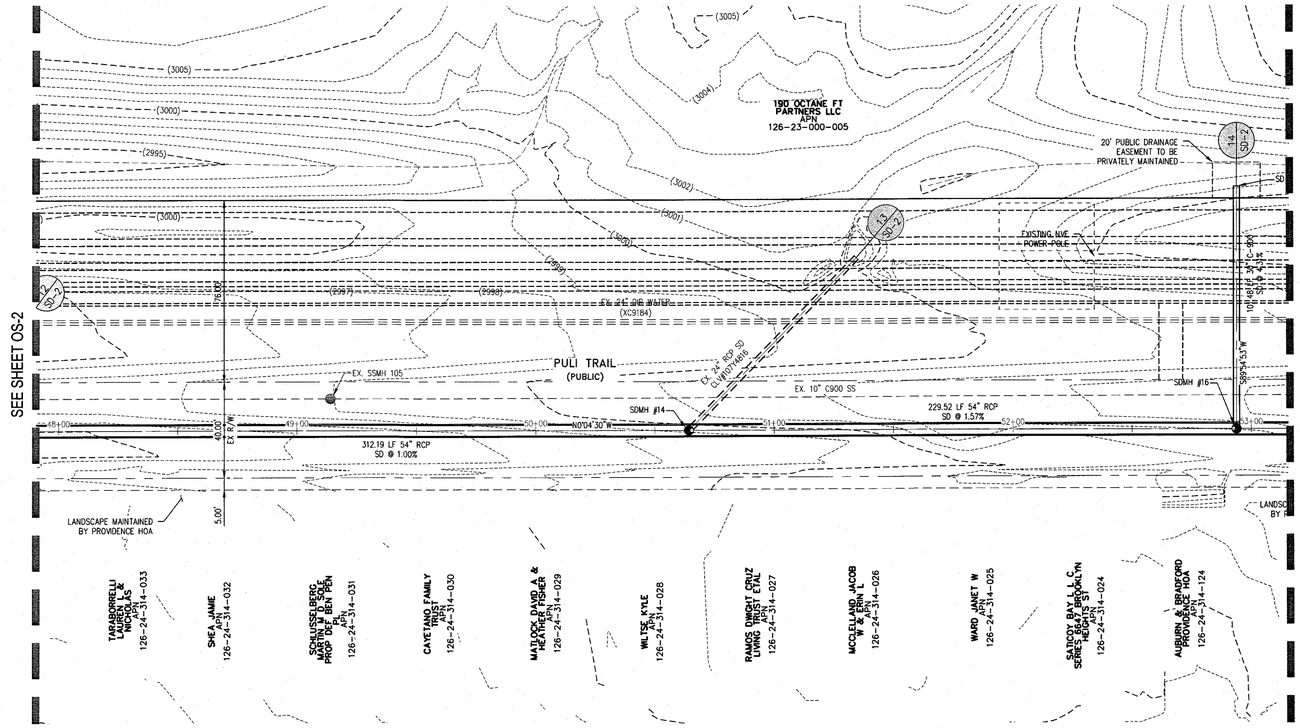
DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
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PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER — STATE OF NEVADA — JOSHUA L. JOHNSON — No. 15789 — EXP. 06/30/2021 — CIVIL — 7/1/20

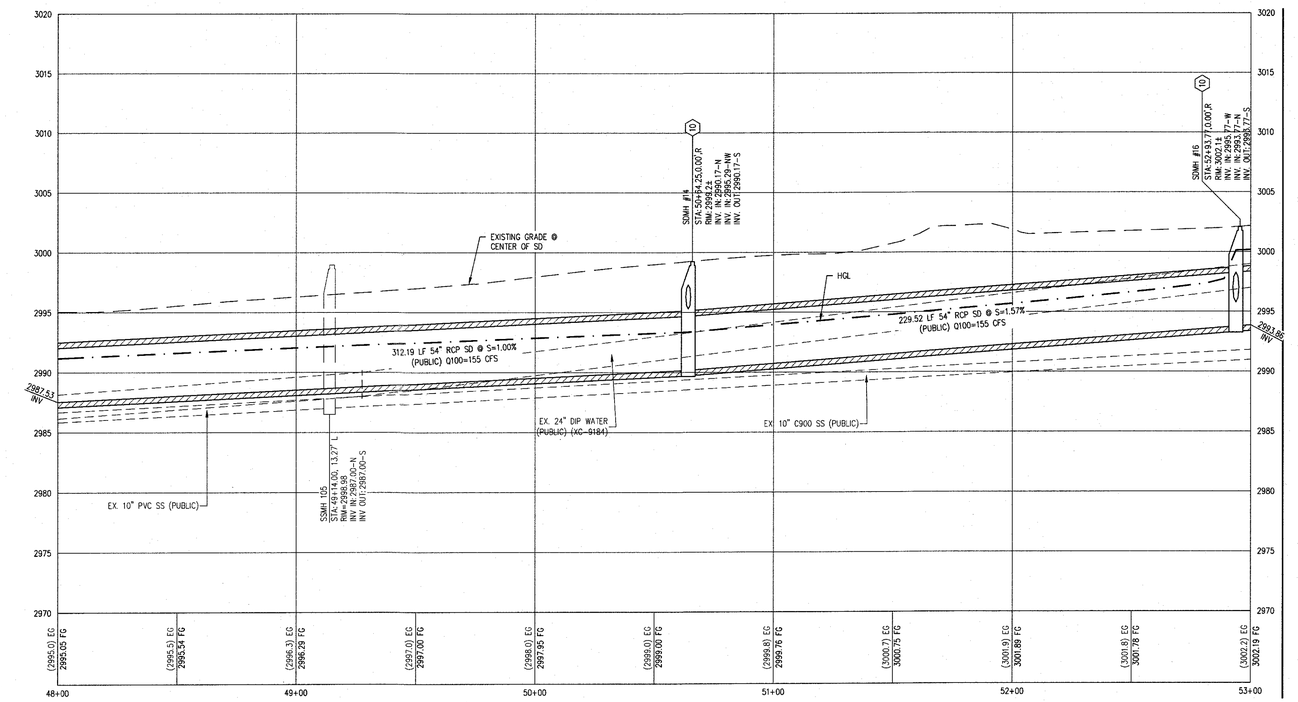
OS-2
SHEET 16 OF 50

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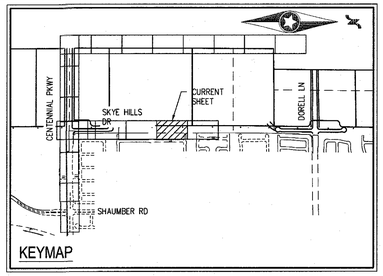
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JOSH JOHNSON, P.E. 15789 DATE

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Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

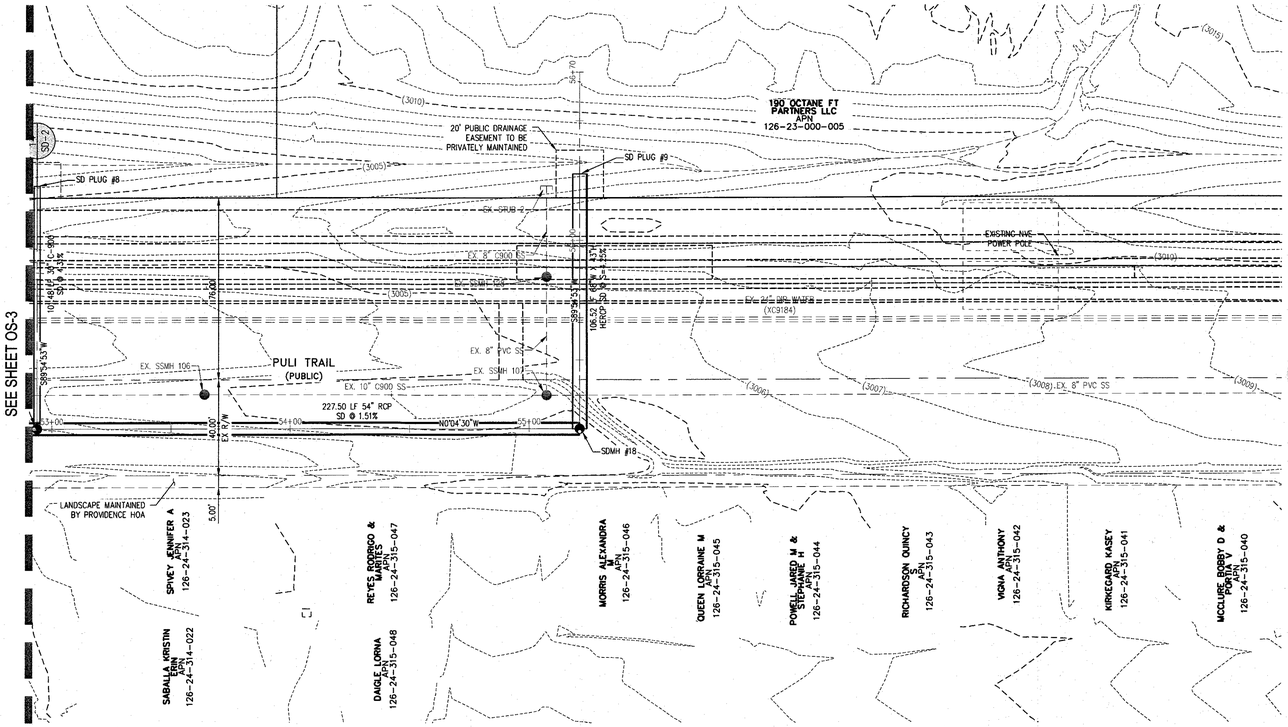
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE SD PLAN & PROFILE 3

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER – STATE OF NEVADA
JOSHUA C. JOHNSON
No. 15789
Exp. 06/30/2021
CIVIL
5/12/20

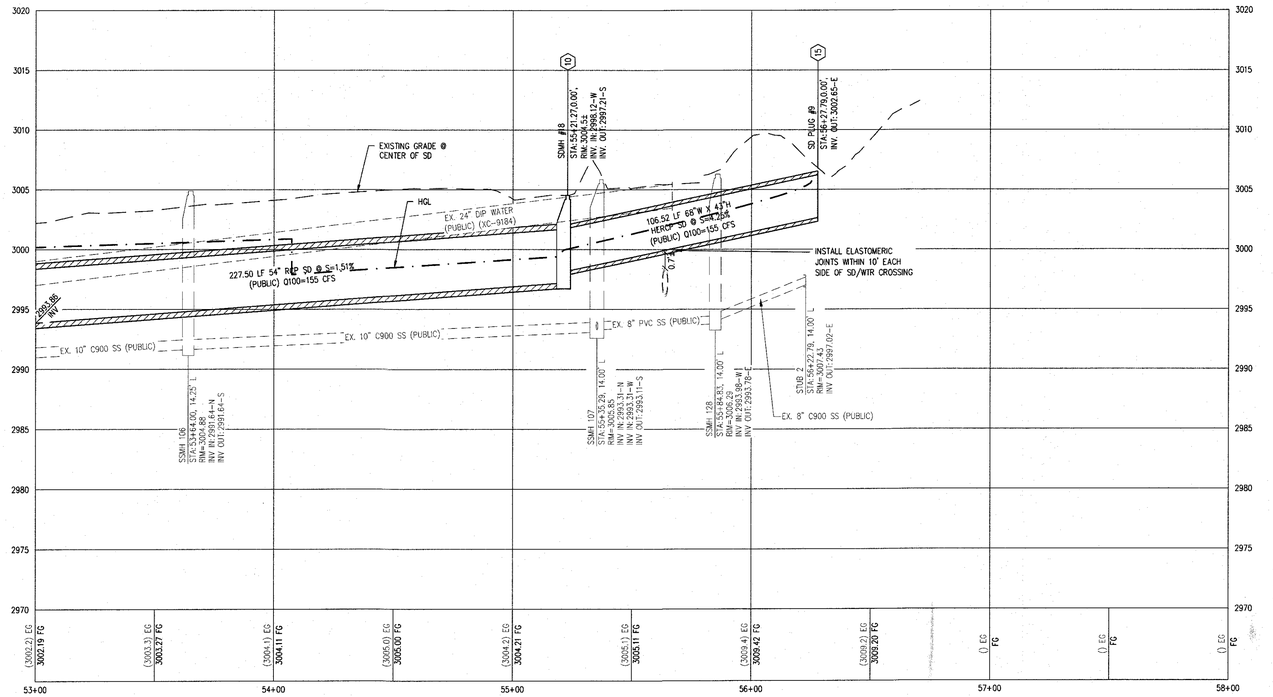
OS-3
SHEET 17 OF 50

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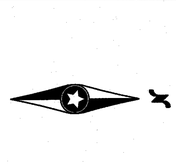
OFF-SITE STRM - PLAN VIEW

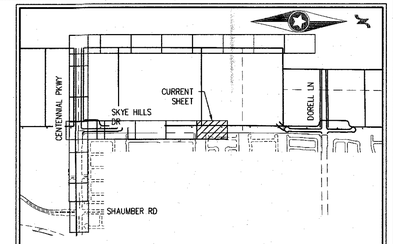
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KEYMAP

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1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
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8. ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED.
9. PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.
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    CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

CONSTRUCTION NOTES

1. CONSTRUCT A.C. PAVEMENT WITH AGGREGATE BASE PER SECTIONS ON SHEET D-1
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4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD DWG. NO. 219
5. CONSTRUCT 8' CROSS GUTTER PER CCAUSD DWG. NO. 228
6. CONSTRUCT 6' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
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15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
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4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
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6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEMING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT, (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

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CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

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DISCLAIMER NOTE

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2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. _____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY OS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 _____ DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

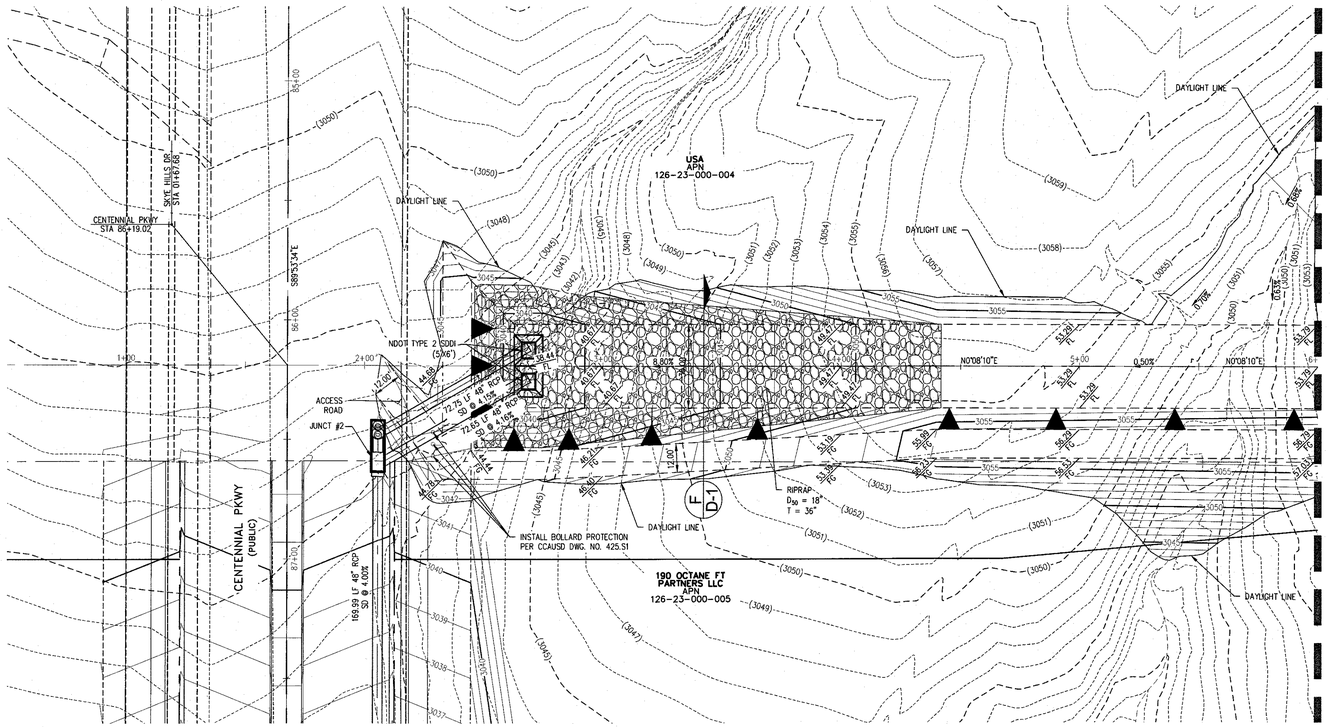
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE SD PLAN & PROFILE 4

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
JOSHUA L. JOHNSON
No. 15789
Exp. 06/30/2021
CIVIL
7/1/20

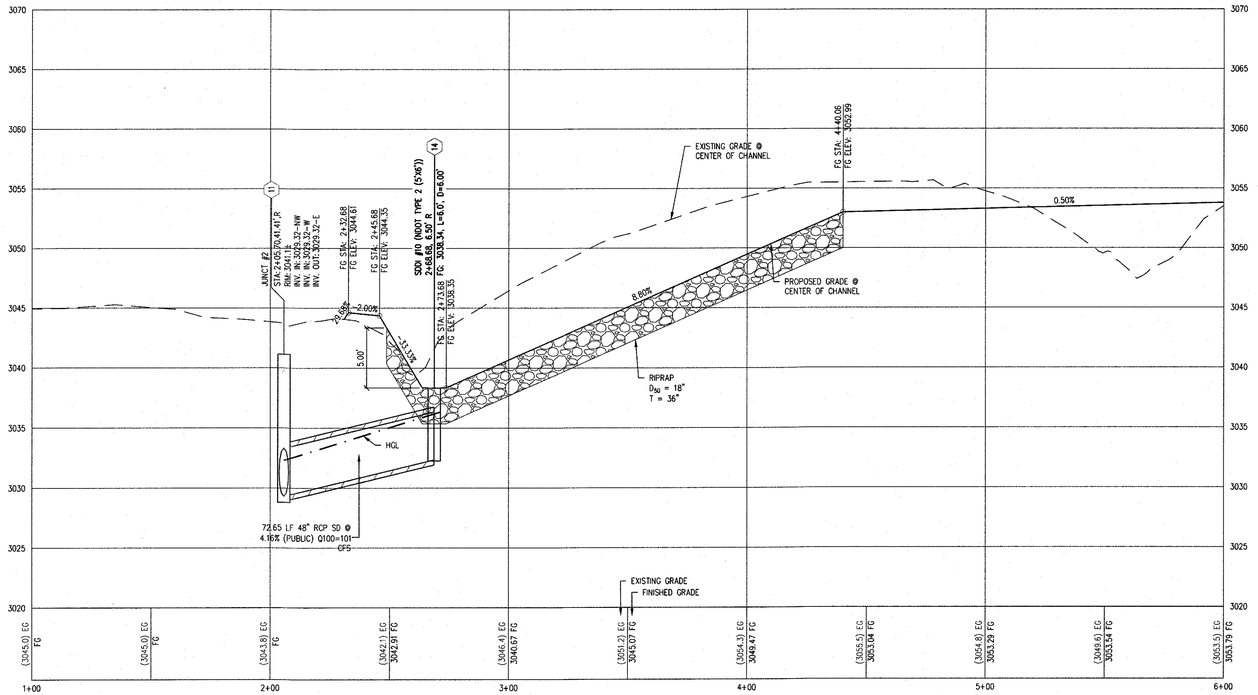
OS-4
SHEET 18 OF 50

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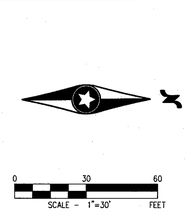
OFF-SITE CHANNEL - PLAN VIEW

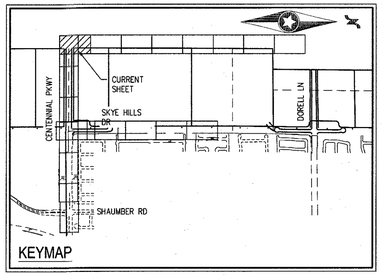
PUBLIC



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CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
- CUT = 45,645 CY
- FILL = 4,745 CY

DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

THE ABOVE QUANTITIES DO NOT REFLECT LOSSESS DUE TO SUBSIDENCE OR SHRINKAGE

TRANSMISSION MAIN STRUCTURAL SUPPORT

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

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Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE INTERM CHANNEL 1

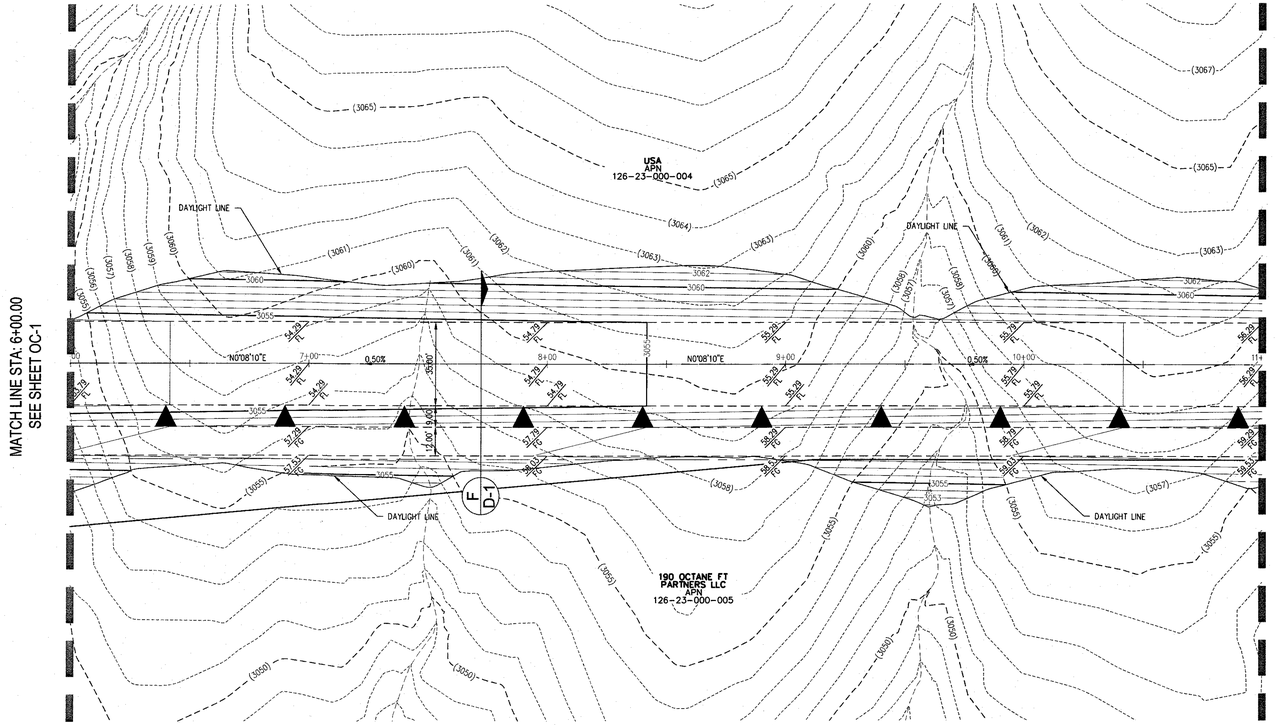
DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
JOSHUA L. JOHNSON
No. 15789
Exp. 06/30/2021
CIVIL
7/7/20

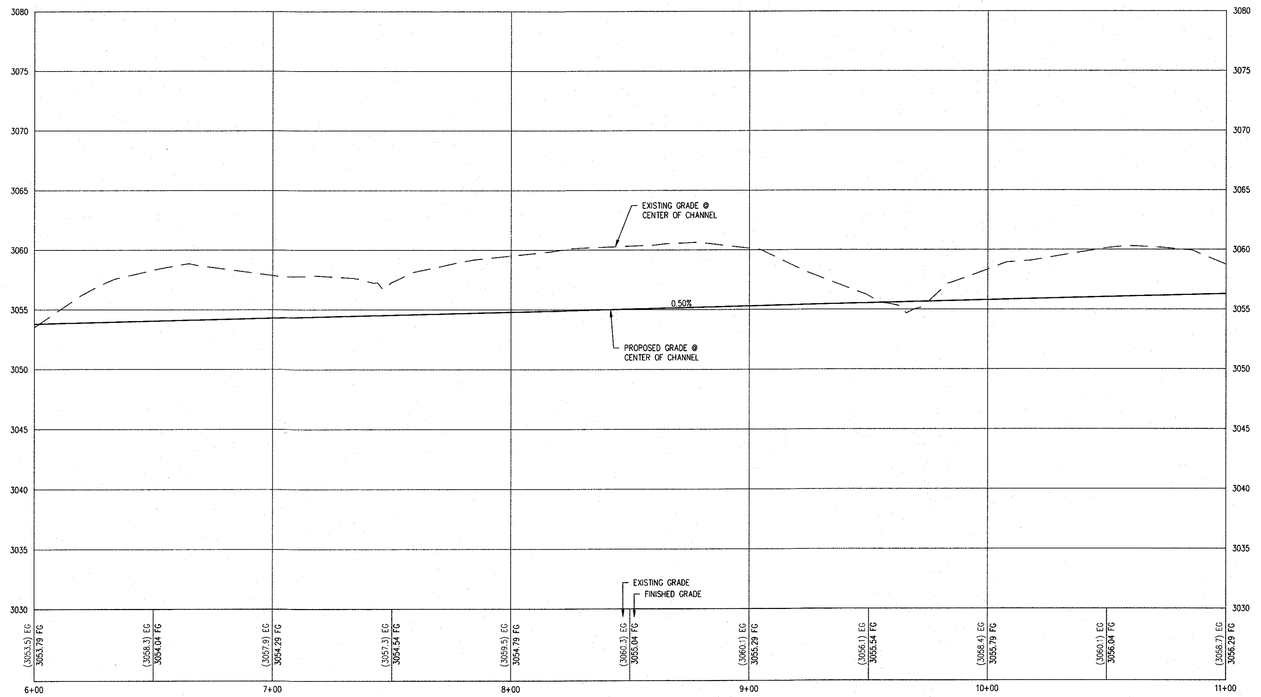
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SHEET 19 OF 50

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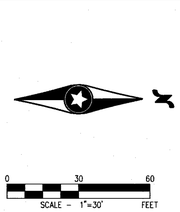
OFF-SITE CHANNEL - PLAN VIEW

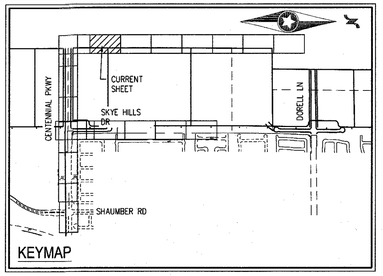
PUBLIC



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NOTES

1. ALL RCP SHALL BE CLASS III UNLESS OTHERWISE SHOWN.
2. ALL PIPE LENGTHS ARE MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR INSIDE EDGE OF DI OR RCB/RCA.
3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES IN PUBLIC ROW ARE PUBLICLY MAINTAINED.
6. ADD SPECIAL INSPECTION REQUIRED FOR PIPE SEGMENTS WITH SACRIFICIAL CONCRETE.
7. SEE UTILITY PLAN AND PROFILE SHEETS FOR UTILITY ADJUSTMENTS AND RELOCATIONS.
8. ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED.
9. PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.
10. WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE, CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
- CUT = 45,645 CY
- FILL = 4,745 CY

DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

THE ABOVE QUANTITIES DO NOT REFLECT LOSSESS DUE TO SUBSIDENCE OR SHRINKAGE

TRANSMISSION MAIN STRUCTURAL SUPPORT

CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER: I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE".

CONSTRUCTION NOTES

1. CONSTRUCT A.C. PAVEMENT WITH AGGREGATE BASE PER SECTIONS ON SHEET D-1
2. CONSTRUCT SIDEWALK RAMP PER CCAUSD DWG. NO. 235, CASE II
3. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD DWG. NO. 216
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD DWG. NO. 219
5. CONSTRUCT 8' CROSS GUTTER PER CCAUSD DWG. NO. 228
6. CONSTRUCT 6' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
7. CONSTRUCT 8' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
8. INSTALL 48" TYPE I MANHOLE PER CCAUSD DWG. NO. 401 & 403
9. INSTALL 48" TYPE II-SD MANHOLE PER CCAUSD DWG. NO. 401 & 405.2
10. INSTALL 60" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
11. CONSTRUCT JUNCTION STRUCTURE PER STRUCTURAL DETAIL X ON SHEET S-1
12. CONSTRUCT 72" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
13. INSTALL TYPE "CM2" DROP INLET (SIZE PER PLAN) PER CCAUSD DWG. NO 412.1 & 421
14. INSTALL NDOT TYPE 2 DROP INLET (5'X6') PER NDOT STD. DWG. DS-32, SEE DETAIL 1, SHEET D-2
15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
9. ???
10. ???

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD ___ FIRST APPROVED DATE:_____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE INTERM CHANNEL 2

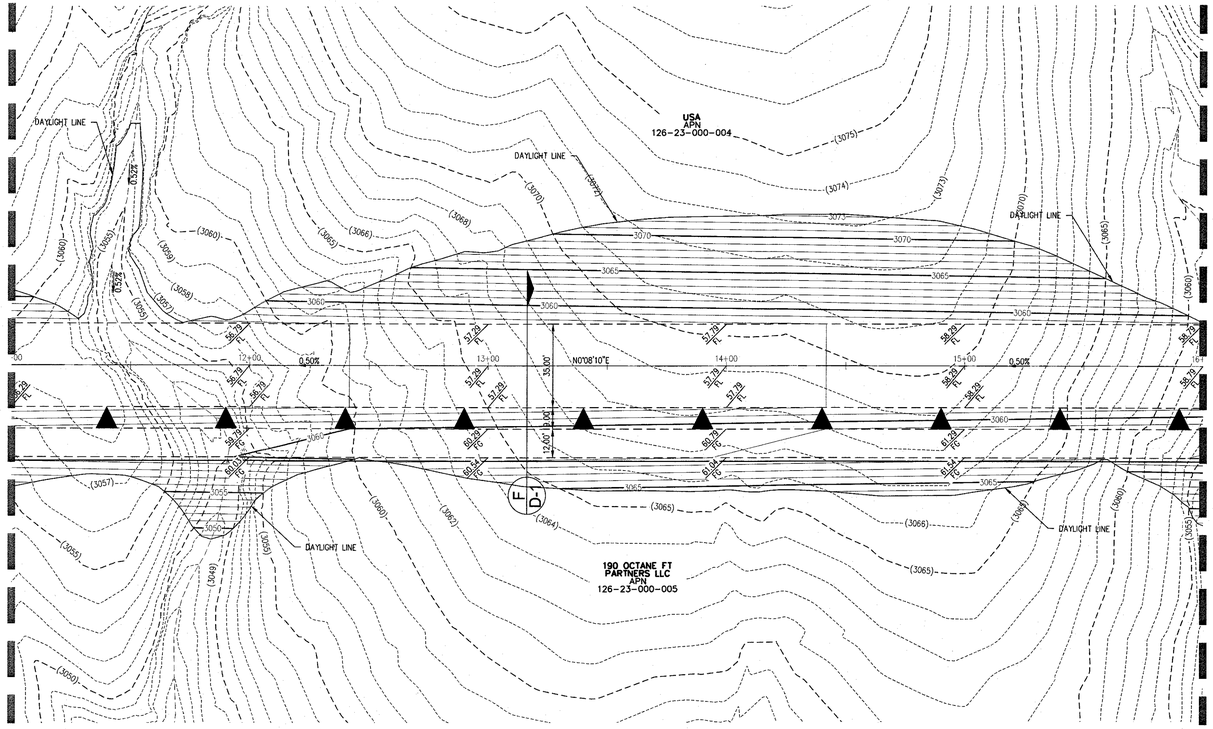
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DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

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7/7/20

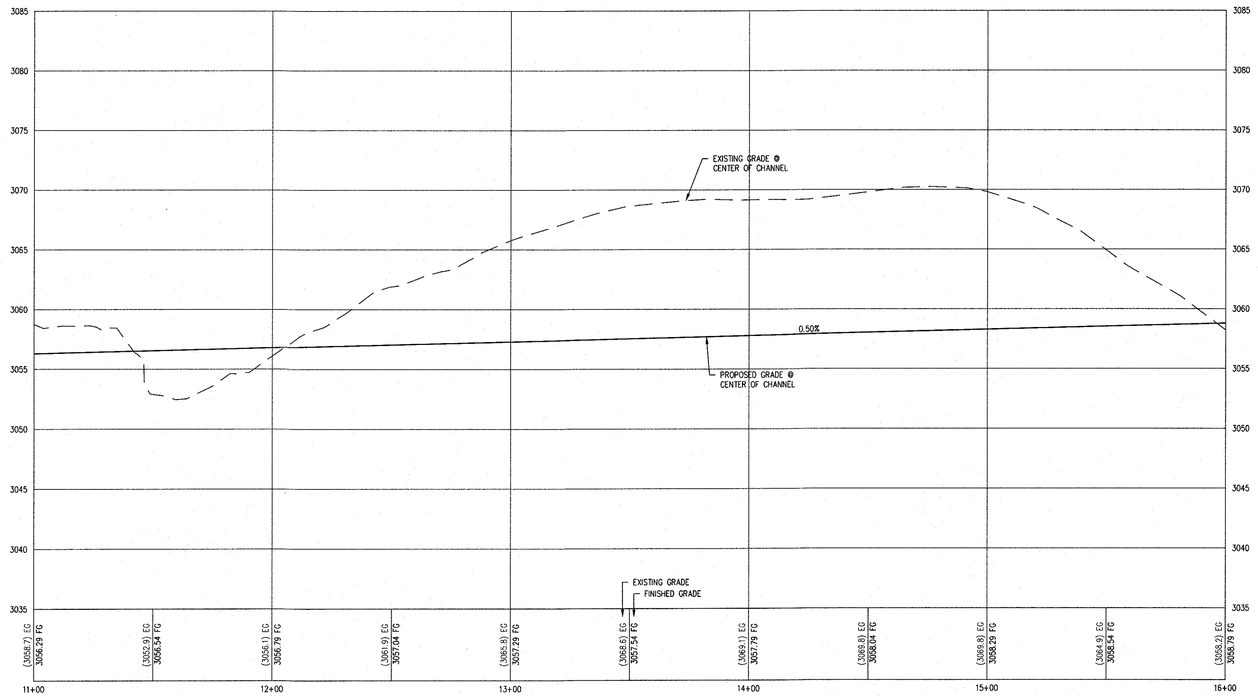
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SHEET 20 OF 50

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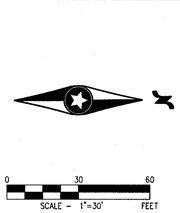
OFF-SITE CHANNEL - PLAN VIEW

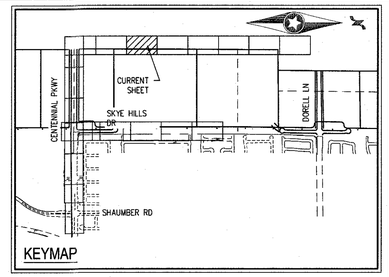
PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

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10. WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE:

    CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS. BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

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WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
9. ???
10. ???

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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

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FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY OS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE INTERM CHANNEL 3

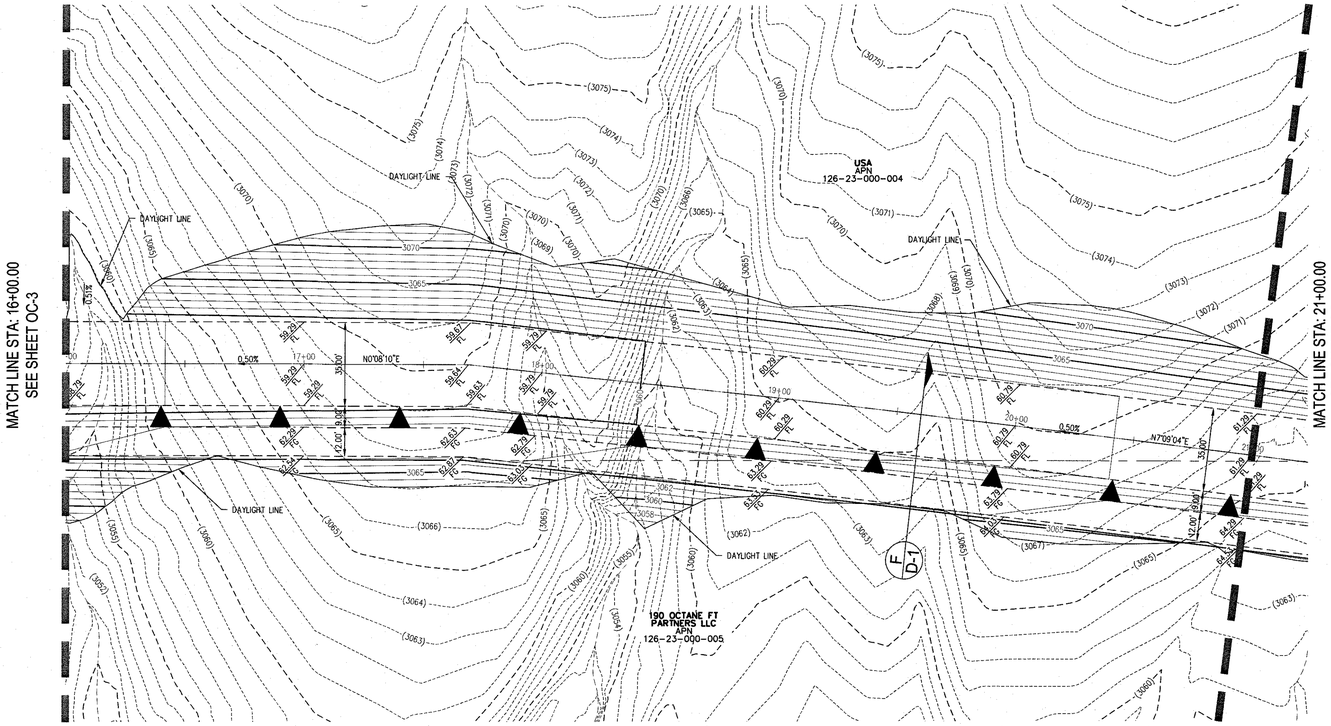
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DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

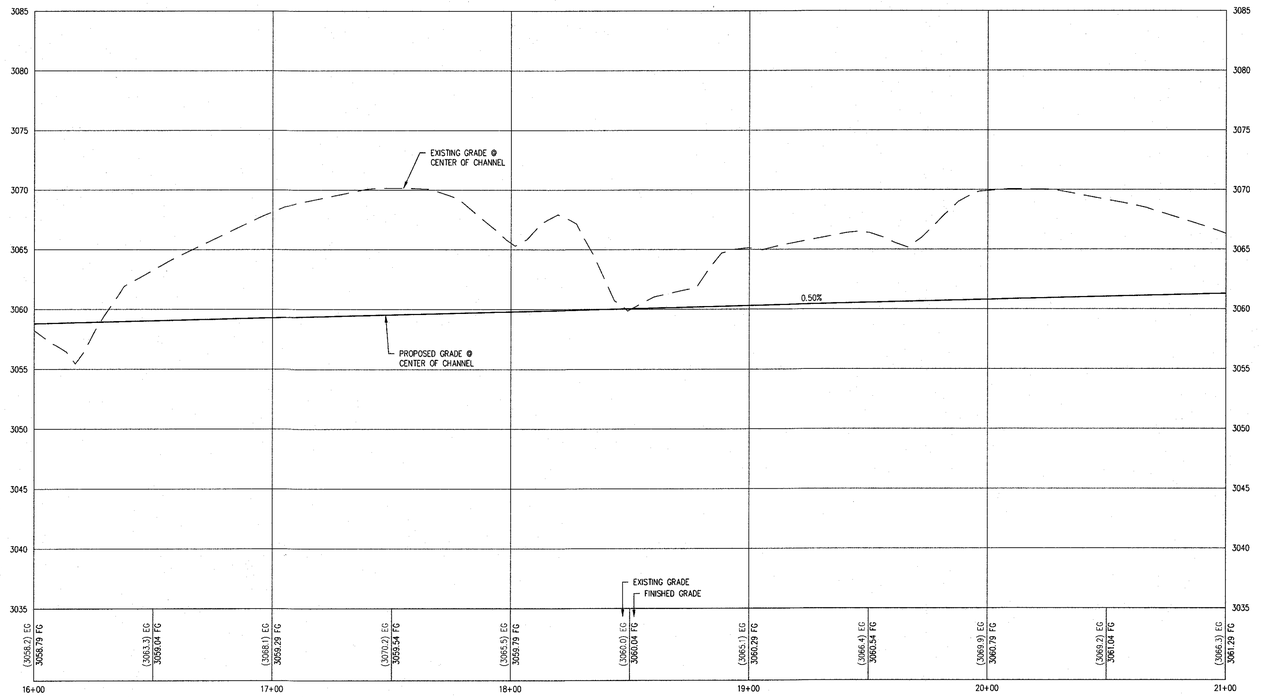
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OC-3
SHEET 21 OF 50

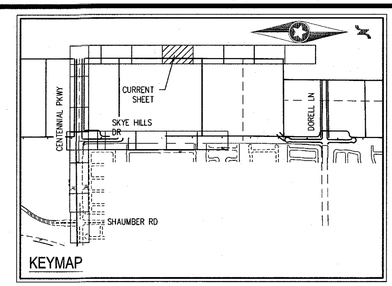
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OFF-SITE CHANNEL - PLAN VIEW
PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 6'



KEYMAP

0 30 60
SCALE - 1"=30' FEET

SEWER NOTES

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8. ALL INTERIM DRAINAGE FACILITIES TO BE PRIVATELY MAINTAINED.
9. PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES, SUCH AS BUT NOT LIMITED TO, THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF VEGETATION.
10. WHERE 10 FEET PARALLEL SEPARATION IS NOT PRACTICABLE, CAST-IN-PLACE MONOLITHIC POUR WITH WATERSTOP BETWEEN SLAB AND WALLS; BASE, WALLS AND TOP TO BE CONSTRUCTED WITH WATERSTOPS, CENTER BULB, OR FLAT STRIP (VINYLEX, GREENSTREAK PLASTIC PRODUCTS OR APPROVED EQUAL).

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

CONSTRUCTION NOTES

1. CONSTRUCT A.C. PAVEMENT WITH AGGREGATE BASE PER SECTIONS ON SHEET D-1
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3. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD DWG. NO. 216
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD DWG. NO. 219
5. CONSTRUCT 8' CROSS GUTTER PER CCAUSD DWG. NO. 228
6. CONSTRUCT 6' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
7. CONSTRUCT 8' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
8. INSTALL 48" TYPE I MANHOLE PER CCAUSD DWG. NO. 401 & 403
9. INSTALL 48" TYPE II-SD MANHOLE PER CCAUSD DWG. NO. 401 & 405.2
10. INSTALL 60" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
11. CONSTRUCT JUNCTION STRUCTURE PER STRUCTURAL DETAIL X ON SHEET S-1
12. CONSTRUCT 72" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
13. INSTALL TYPE "CM2" DROP INLET (SIZE PER PLAN) PER CCAUSD DWG. NO 412.1 & 421
14. INSTALL NDOT TYPE 2 DROP INLET (6'X6') PER NDOT STD. DWG. DS-32, SEE DETAIL 1, SHEET D-2
15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
9. ???
10. ???

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2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
- CUT = 45,645 CY
- FILL = 4,745 CY

DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

THE ABOVE QUANTITIES DO NOT REFLECT LOSSESS DUE TO SUBSIDENCE OR SHRINKAGE

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

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CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER: I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE"

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE INTERM CHANNEL 4

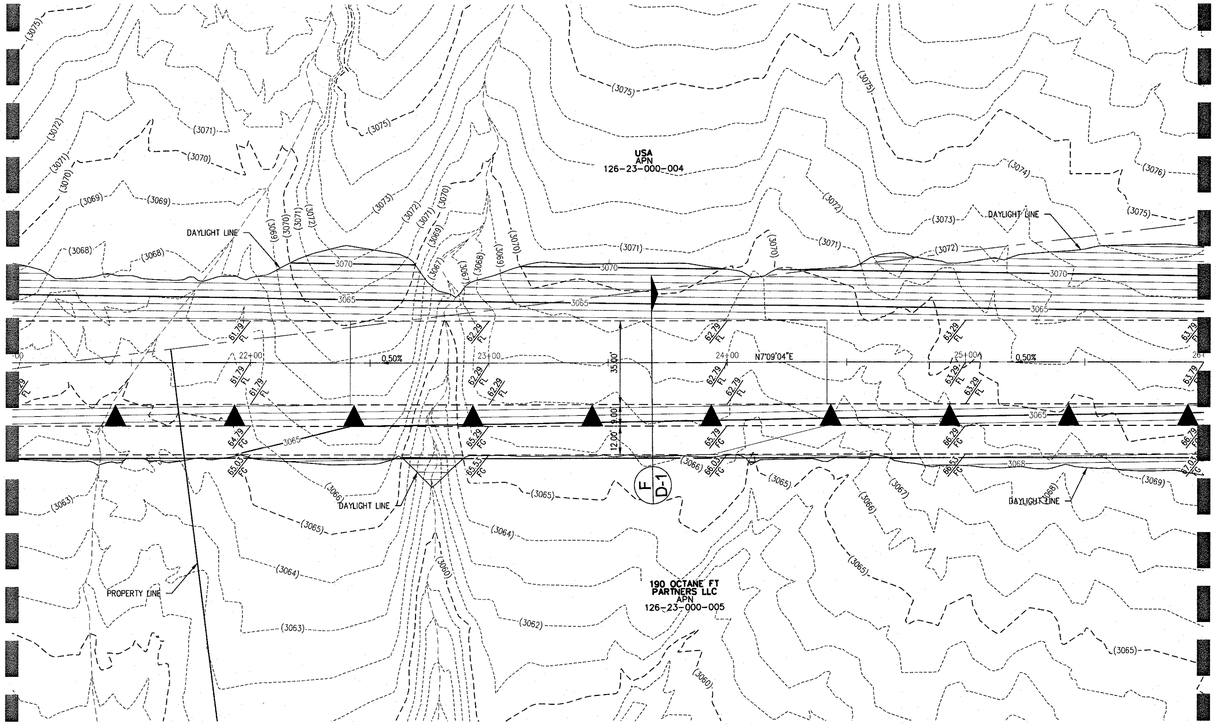
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DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000



7/20

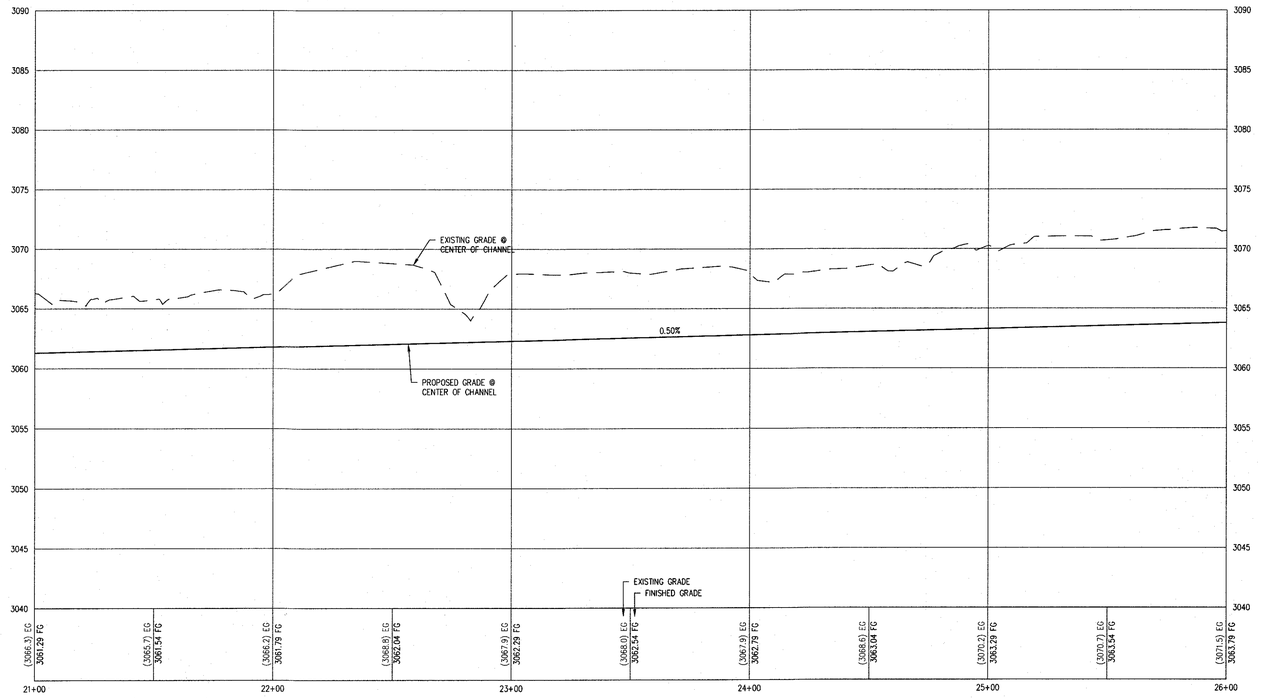
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SHEET 22 OF 50

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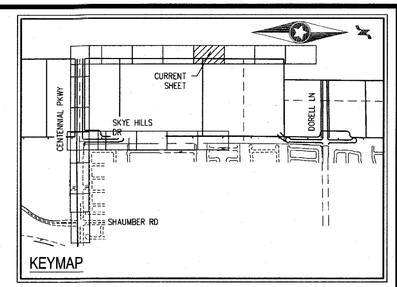
OFF-SITE CHANNEL - PLAN VIEW

PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



KEYMAP

SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

NOTES

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3. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL STRUCTURAL DETAILS AND CONNECTIONS.
5. ALL PIPES IN PUBLIC ROW ARE PUBLICLY MAINTAINED.
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WATER NOTES

1. ???
2. ???
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FLOOD ZONE

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CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
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DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE







Westwood
Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
OFF-SITE INTERM CHANNEL 5

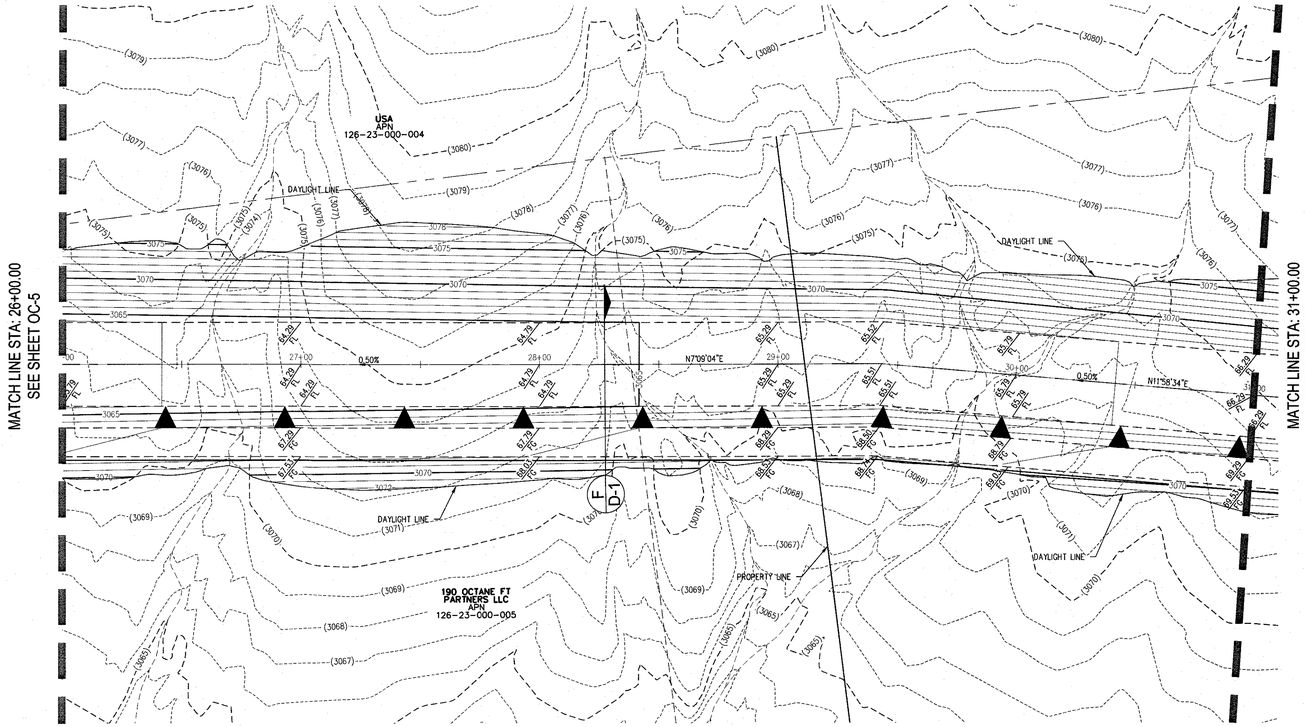
DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER — STATE OF NEVADA — JOSHUA L. JOHNSON — No. 15789 — CIVIL — 7/7/20

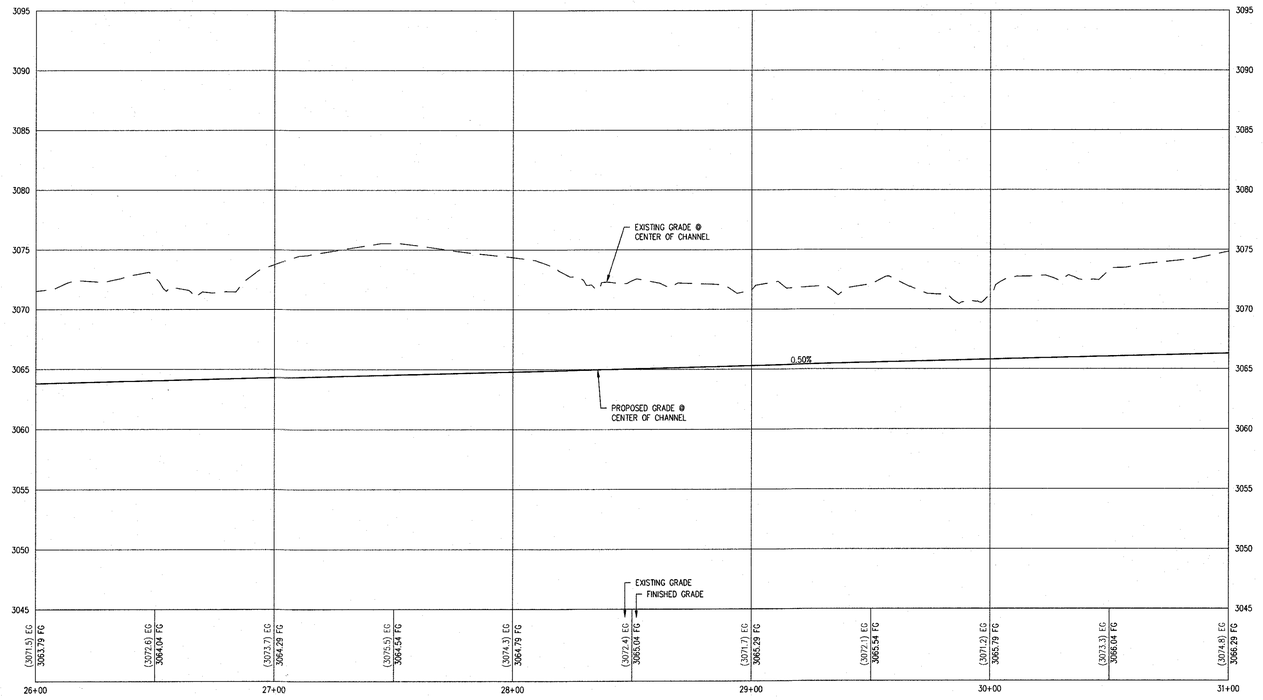
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SHEET 23 OF 50

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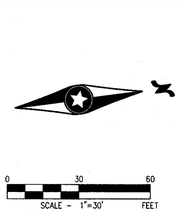
OFF-SITE CHANNEL - PLAN VIEW

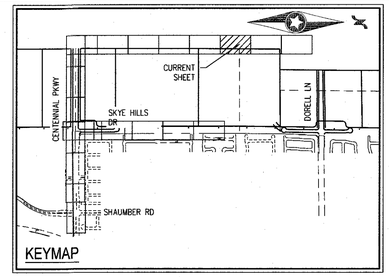
PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

1. INSTALL 48" SSMH WITH SINGLE 24" LID PER DCSWCS SD-1, SD-3, SD-4, & SD-9
2. INSTALL CAP (SIZE PER PLAN) WITH THRUST BLOCK PER DCSWCS SECTION 2.3.5

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15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
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LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
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CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
- CUT = 45,645 CY
- FILL = 4,745 CY

DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

THE ABOVE QUANTITIES DO NOT REFLECT LOSSESS DUE TO SUBSIDENCE OR SHRINKAGE

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
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8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

TRANSMISSION MAIN STRUCTURAL SUPPORT

CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 6-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

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SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
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OR
1-800-227-2600

Westwood
5740 S. Arville Street
Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

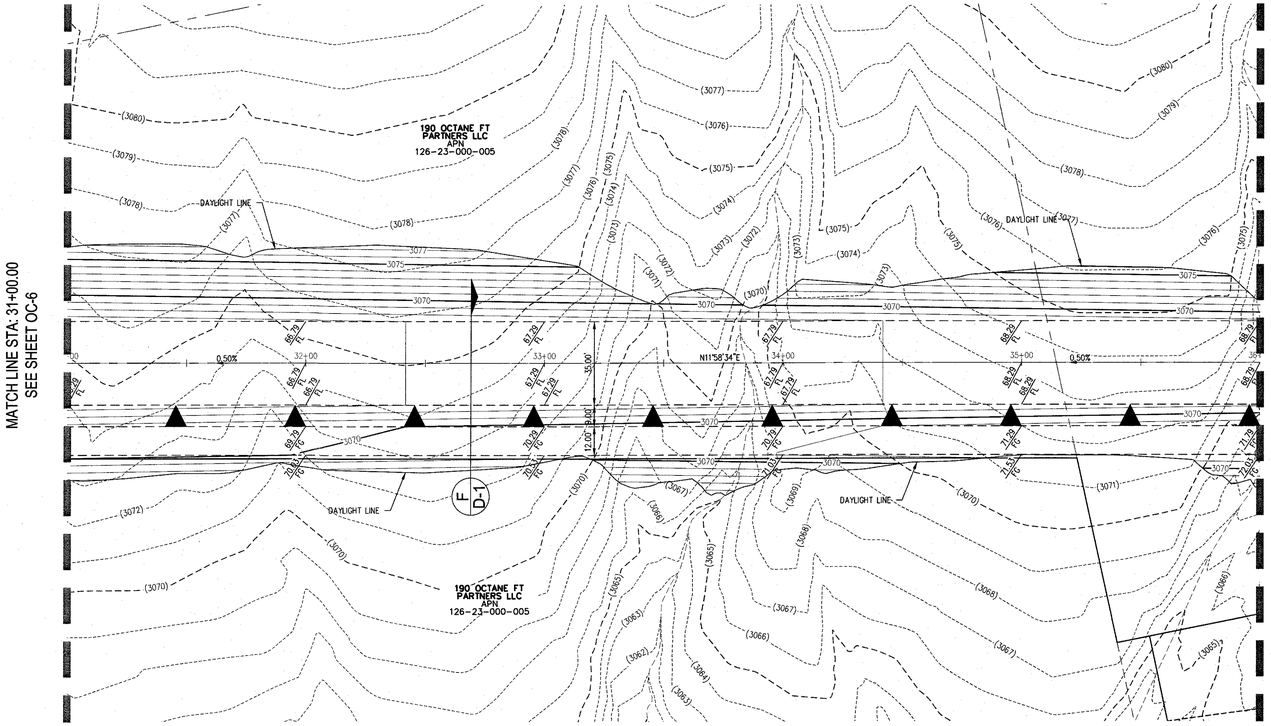
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE INTERM CHANNEL 6

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER – STATE OF NEVADA
JOSHUA L. JOHNSON
No. 15789
Exp. 06/30/2021
CIVIL
7/7/20

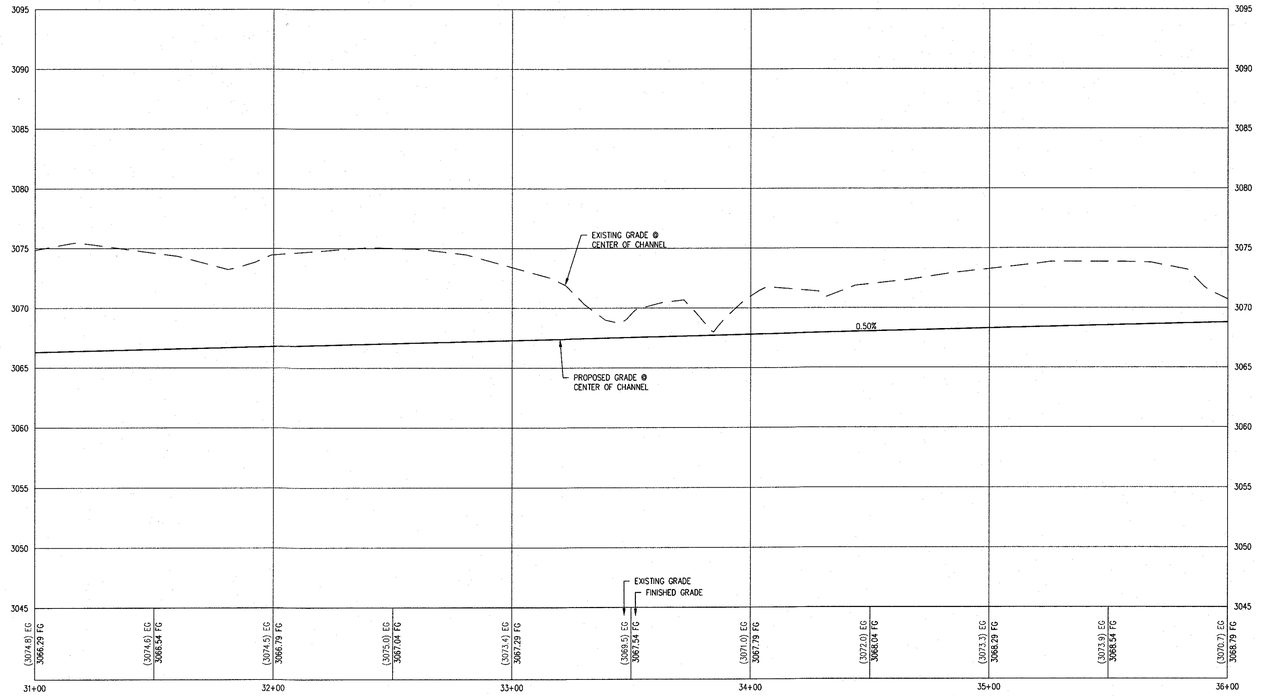
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SHEET 24 OF 50

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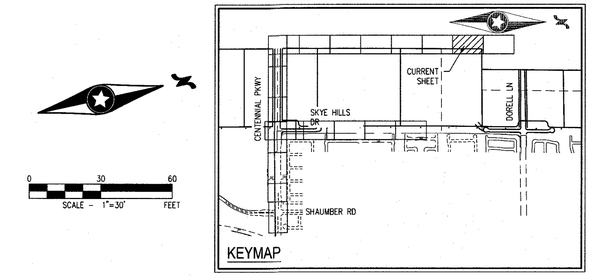
OFF-SITE CHANNEL - PLAN VIEW

PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'



0 30 60
SCALE - 1"=30' FEET

SEWER NOTES

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1. ???
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD _____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

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JOSH JOHNSON, P.E. 15789 DATE

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Las Vegas, NV 89118
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Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

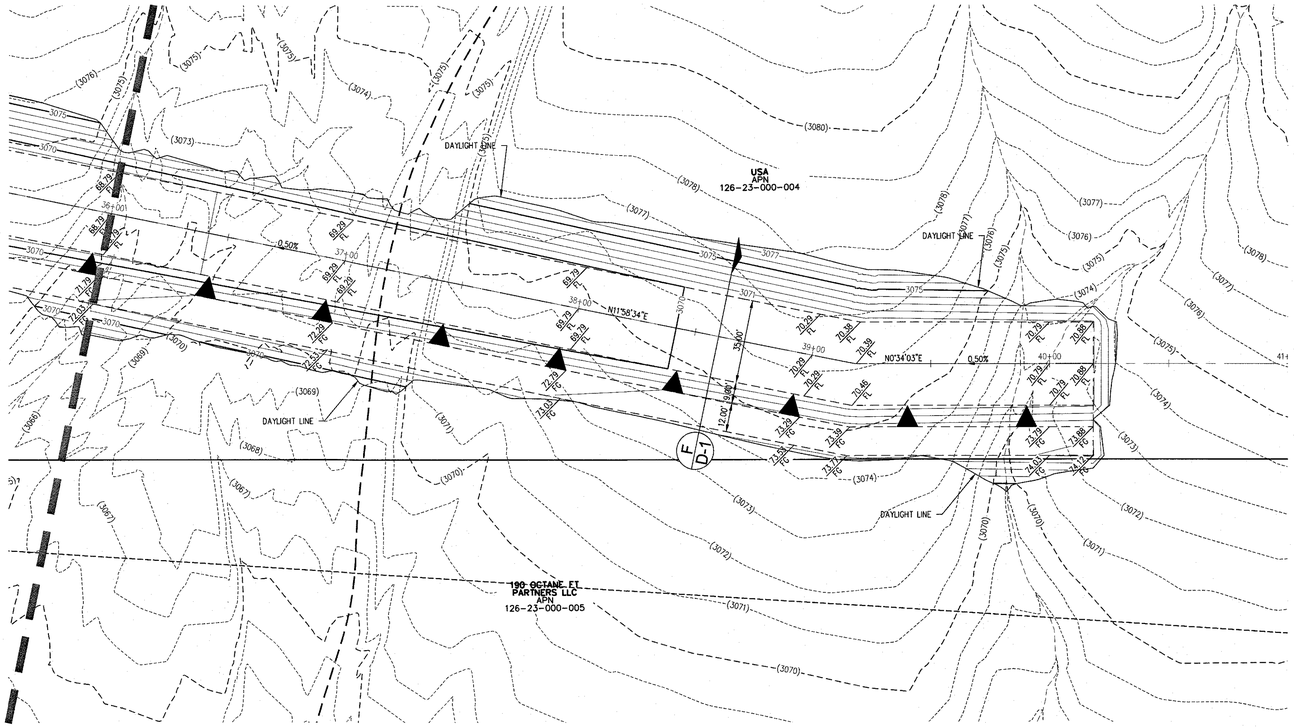
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE INTERM CHANNEL 7

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSHUA JOHNSON - No. 15789 - Exp. 06/30/2021 - CIVIL - 7/7/20

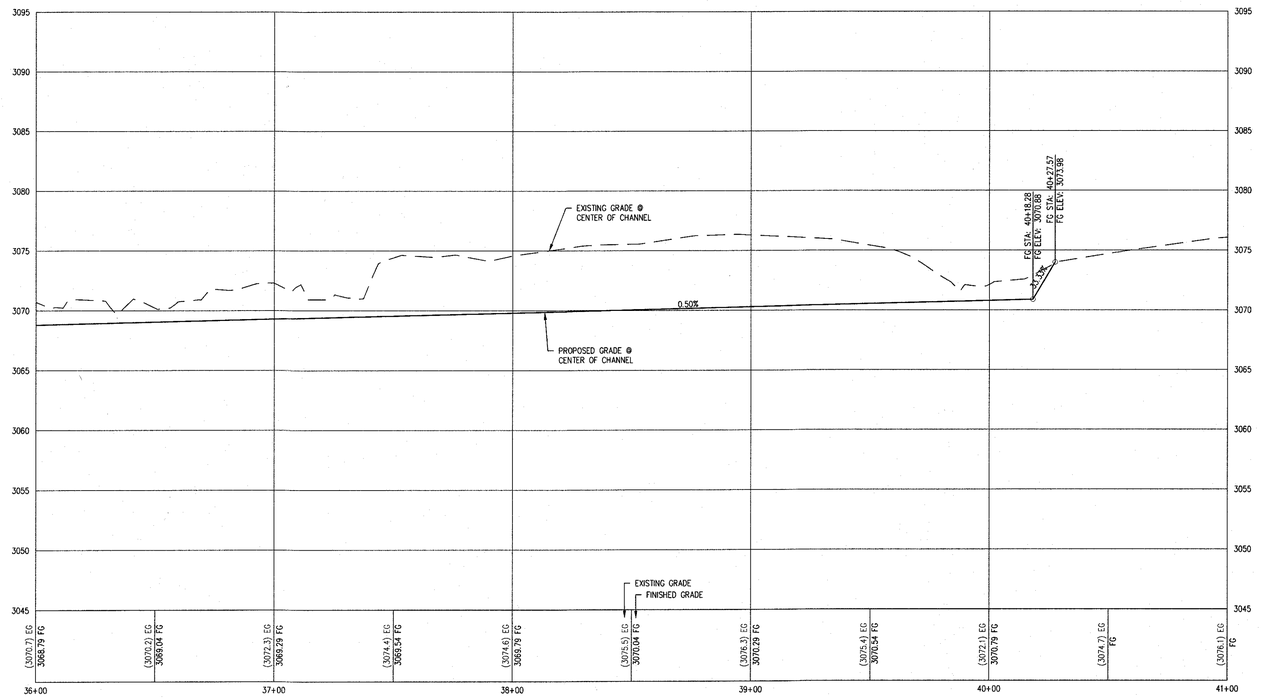
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SHEET 25 OF 50

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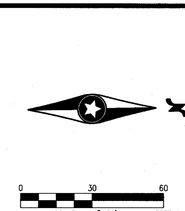
OFF-SITE CHANNEL - PLAN VIEW

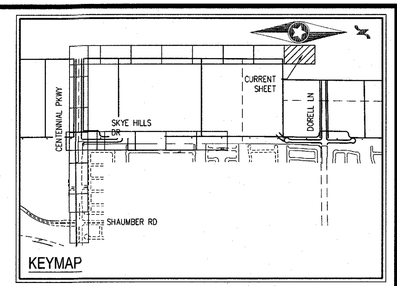
PUBLIC



OFF-SITE CHANNEL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 6'





KEYMAP

SEWER NOTES

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3. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD DWG. NO. 216
4. CONSTRUCT "A" TYPE ISLAND CURB PER CCAUSD DWG. NO. 219
5. CONSTRUCT 8' CROSS GUTTER PER CCAUSD DWG. NO. 228
6. CONSTRUCT 6' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
7. CONSTRUCT 8' WIDE CONCRETE SIDEWALK PER CCAUSD DWG. NO. 234
8. INSTALL 48" TYPE I MANHOLE PER CCAUSD DWG. NO. 401 & 403
9. INSTALL 48" TYPE II-SD MANHOLE PER CCAUSD DWG. NO. 401 & 405.2
10. INSTALL 60" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
11. CONSTRUCT JUNCTION STRUCTURE PER STRUCTURAL DETAIL X ON SHEET S-1
12. CONSTRUCT 72" TYPE III MANHOLE PER CCAUSD DWG. NO. 401 & 406
13. INSTALL TYPE "CM2" DROP INLET (SIZE PER PLAN) PER CCAUSD DWG. NO 412.1 & 421
14. INSTALL NDOT TYPE 2 DROP INLET (5'X6') PER NDOT STD. DWG. RSS-32, SEE DETAIL 1, SHEET D-2
15. INSTALL BRICK AND MORTAR PLUG PER DETAIL 2 ON SHEET D-2

WATER NOTES

1. ???
2. ???
3. ???
4. ???
5. ???
6. ???
7. ???
8. ???
9. ???
10. ???

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

CP-DL CHANNEL (OFF-SITE)

EARTHWORK QUANTITIES (RAW)
- CUT = 45,645 CY
- FILL = 4,745 CY

DISTURBED AREA = 332,664 S.F. (7.6 ACRES)

THE ABOVE QUANTITIES DO NOT REFLECT LOSSESS DUE TO SUBSIDENCE OR SHRINKAGE

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
8. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.

TRANSMISSION MAIN STRUCTURAL SUPPORT

CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS PREPARED BY A NEVADA LICENSED STRUCTURAL ENGINEER FOR CROSSINGS WITH WATER WHERE THE TRENCH IS 8-FEET OR GREATER. CONTACT ENGINEERING SERVICES FOR INDICATION ON PACKAGE SUBMITTAL. PIPE SUPPORT PACKAGE MUST BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO COMMENCEMENT OF WORK. PIPE SUPPORTS FOR TRANSMISSION MAINS (24-INCH AND LARGER) WILL BE LIMITED TO A MAXIMUM OF 1 WEEK. A SCHEDULE OF WATER MAINS SUPPORTED MUST BE PROVIDED TO LVVWD ENGINEERING SERVICES.

IN AREAS WHERE THE EXCAVATION OR GROUND ELEVATION IS LESS THAN (3) FEET, FROM THE TOP OF THE LVVWD TRANSMISSION MAIN, NO EXCAVATION EQUIPMENT, OTHER THAN HAND HELD EQUIPMENT WILL BE ALLOWED WITHIN TEN (10) FEET OF THE PIPELINE IN THESE AREAS. THE CONTRACTOR IS TO PLACE A CONCRETE BARRIER: I.E. JERSEY RAIL, TO IDENTIFY AND PROTECT THE "NO EQUIPMENT ZONE".

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER THE FEMA FIRM PANEL 32003C1750E DATED SEPTEMBER 27, 2002

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO._____ ADD FIELD ____ FIRST APPROVED DATE: _____

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY OS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 DATE

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811 OR 1-800-227-2600

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5740 S. Arville Street
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Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

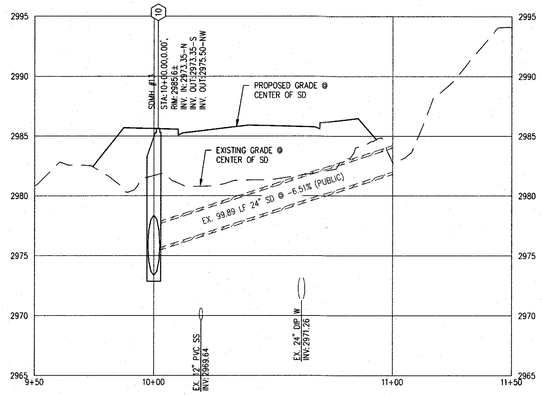
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY OFF-SITE INTERM CHANNEL 8

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER — STATE OF NEVADA — JOSHUA L. JOHNSON — No. 15789 — Exp. 06/30/2021 — CIVIL — 7/1/20

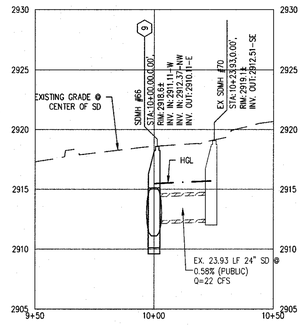
OC-8
SHEET 26 OF 50

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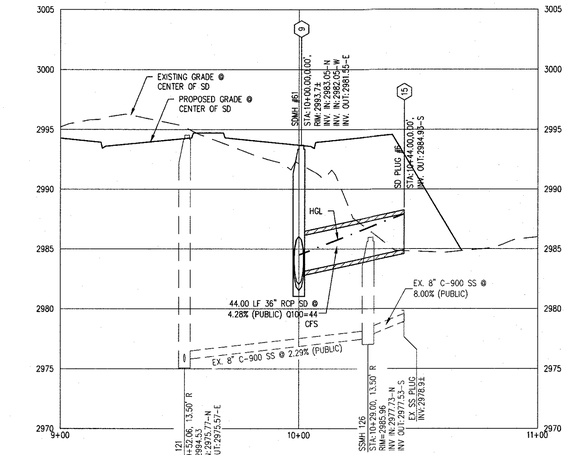
8 STORM DRAIN LATERAL 8

SEE SHT: PP-8, OS-1, G-4
HORIZ: 1"=30'
VERT: 1"=6'



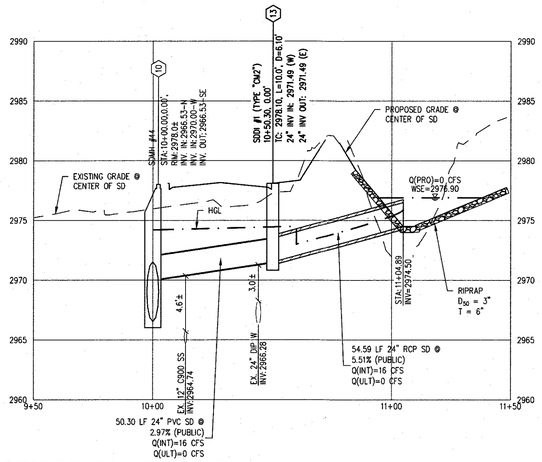
5 STORM DRAIN LATERAL 5

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VERT: 1"=6'



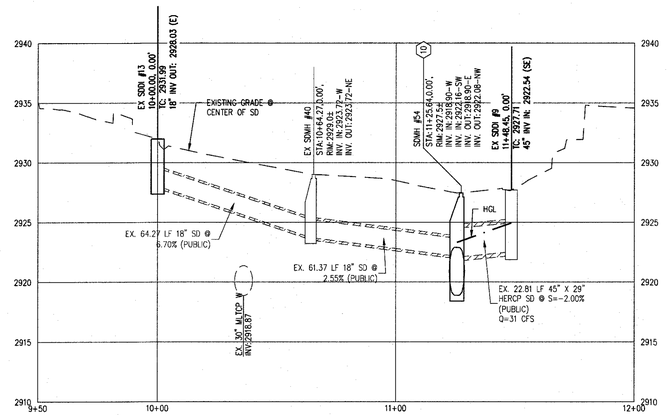
2 STORM DRAIN LATERAL 2

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VERT: 1"=6'



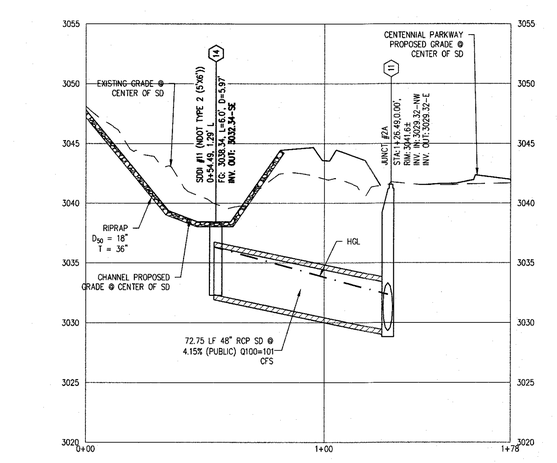
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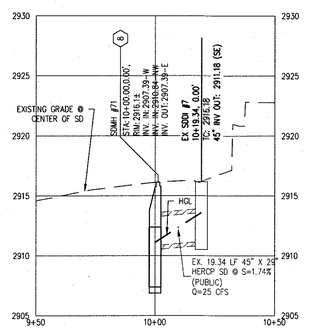
4 STORM DRAIN LATERAL 4

SEE SHT: PP-6
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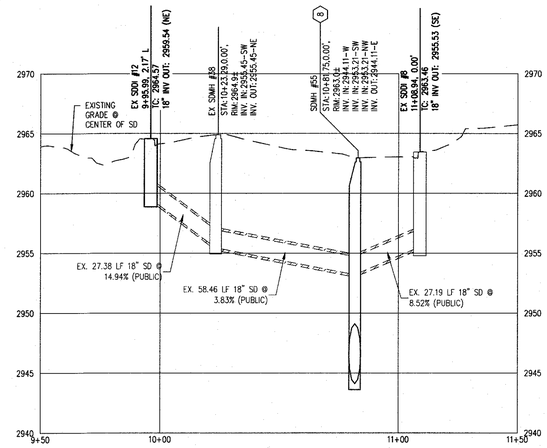
1A STORM DRAIN LATERAL 1A

SEE SHT: PP-1, OC-1, G-5
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VERT: 1"=6'



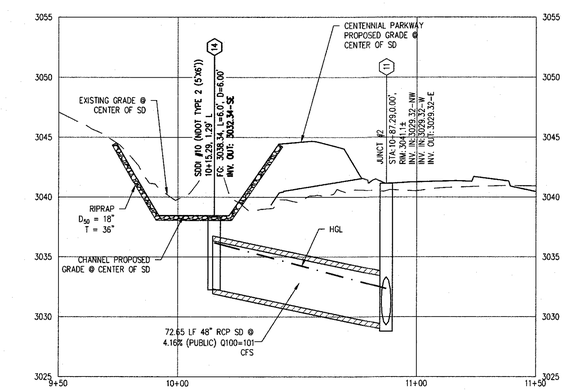
6 STORM DRAIN LATERAL 6

SEE SHT: PP-4, PP-5
HORIZ: 1"=30'
VERT: 1"=6'



3 STORM DRAIN LATERAL 3

SEE SHT: PP-4, PP-5
HORIZ: 1"=30'
VERT: 1"=6'



1 STORM DRAIN LATERAL 1

SEE SHT: PP-1, OC-1, G-5
HORIZ: 1"=30'
VERT: 1"=6'

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Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
STORM DRAIN LATERAL 1

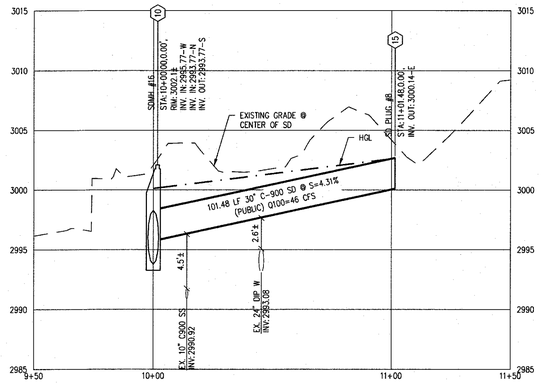
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DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA
JOSHUA L. JOHNSON
Exp. 06/30/2021
CIVIL
No. 15789
7/7/20

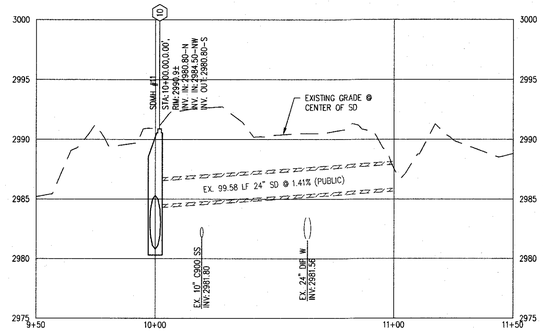
SD-1
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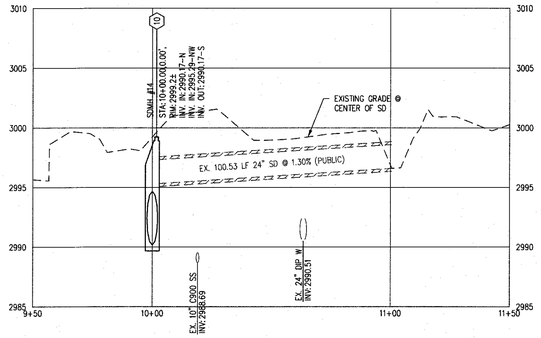
14 STORM DRAIN LATERAL 14

SEE SHT: OS-3, G-2
HORIZ: 1"=30'
VERT: 1"=6'



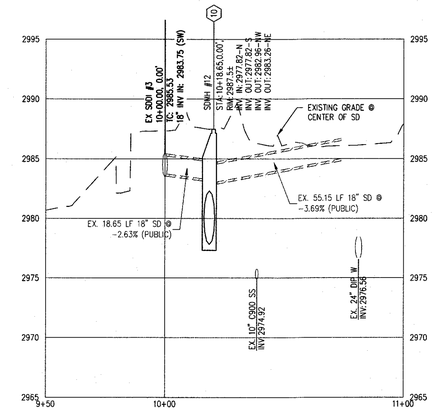
11 STORM DRAIN LATERAL 11

SEE SHT: OS-2, G-3
HORIZ: 1"=30'
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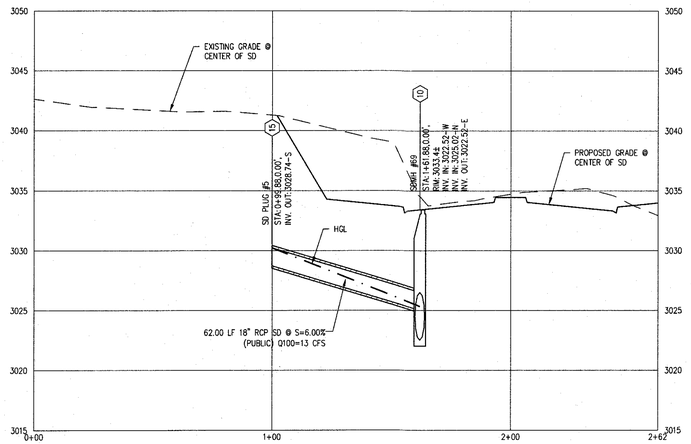
13 STORM DRAIN LATERAL 13

SEE SHT: OS-3, G-2
HORIZ: 1"=30'
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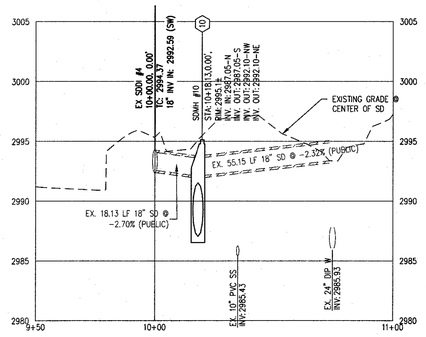
10 STORM DRAIN LATERAL 10

SEE SHT: PP-8, OS-1, G-4
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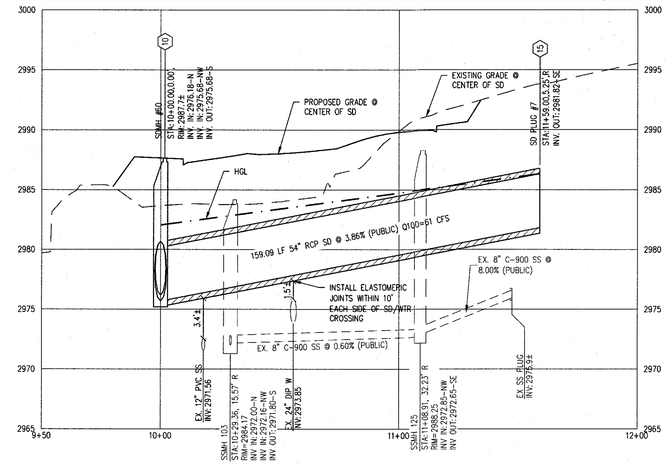
15 STORM DRAIN LATERAL 15

SEE SHT: PP-1, G-5
HORIZ: 1"=30'
VERT: 1"=6'



12 STORM DRAIN LATERAL 12

SEE SHT: OS-2, G-3
HORIZ: 1"=30'
VERT: 1"=6'



9 STORM DRAIN LATERAL 9

SEE SHT: PP-8, OS-1, G-4
HORIZ: 1"=30'
VERT: 1"=6'

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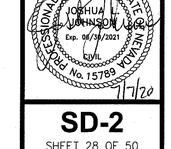
CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
STORM DRAIN LATERAL 2

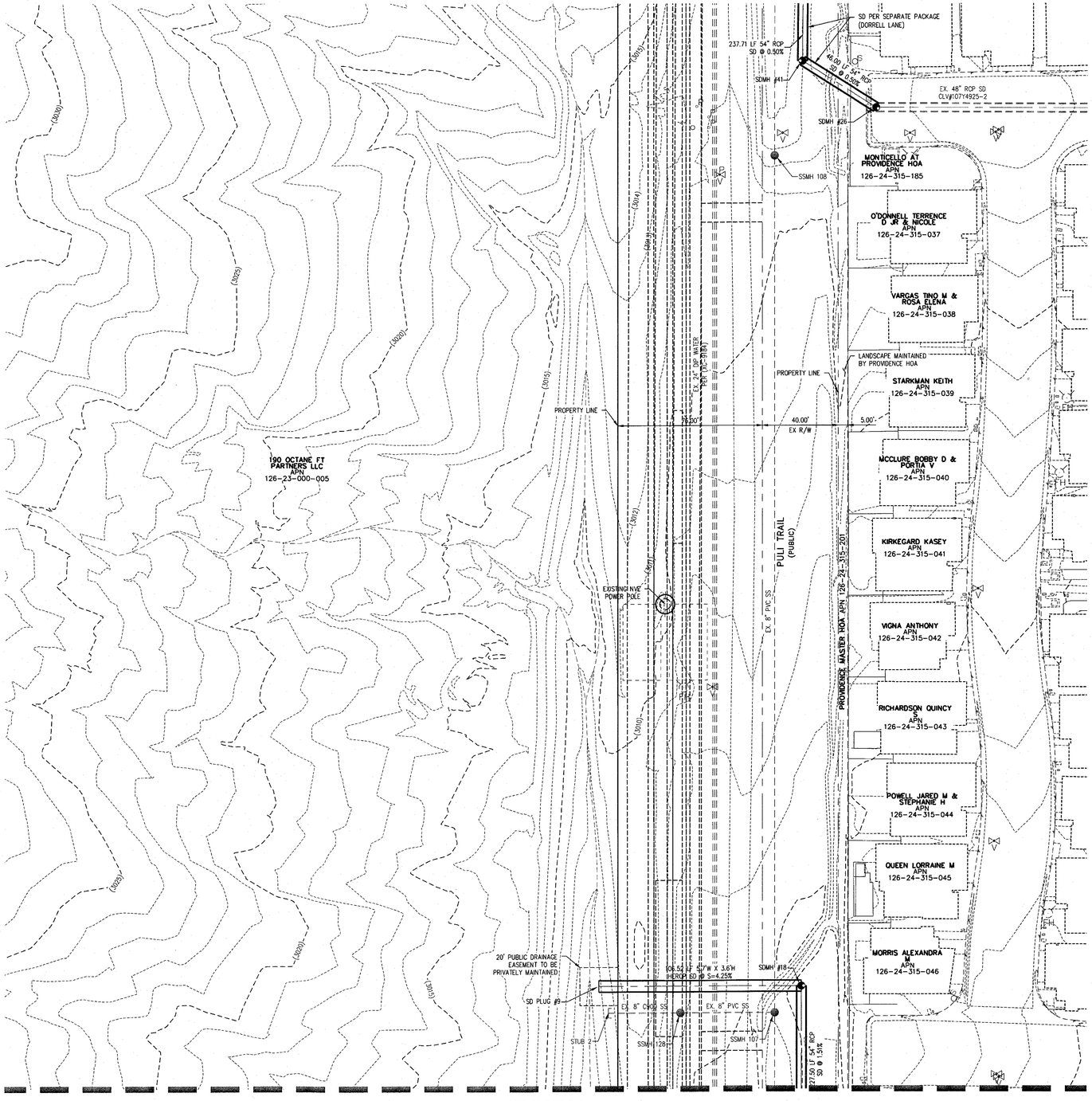
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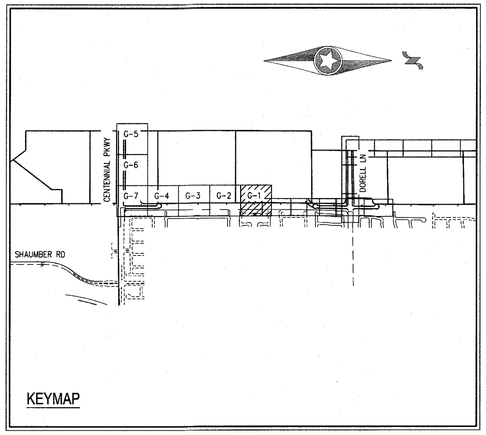
SD-2
SHEET 28 OF 50

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SEE SHEET G-2

0 30 60
SCALE – 1"=30' FEET



KEYMAP

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CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

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NOTE

PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES SUCH AS BUT NOT LIMITED TO THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF THE VEGETATION.

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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JOSH JOHNSON, P.E. 15789 DATE

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
GRADING PLAN 1

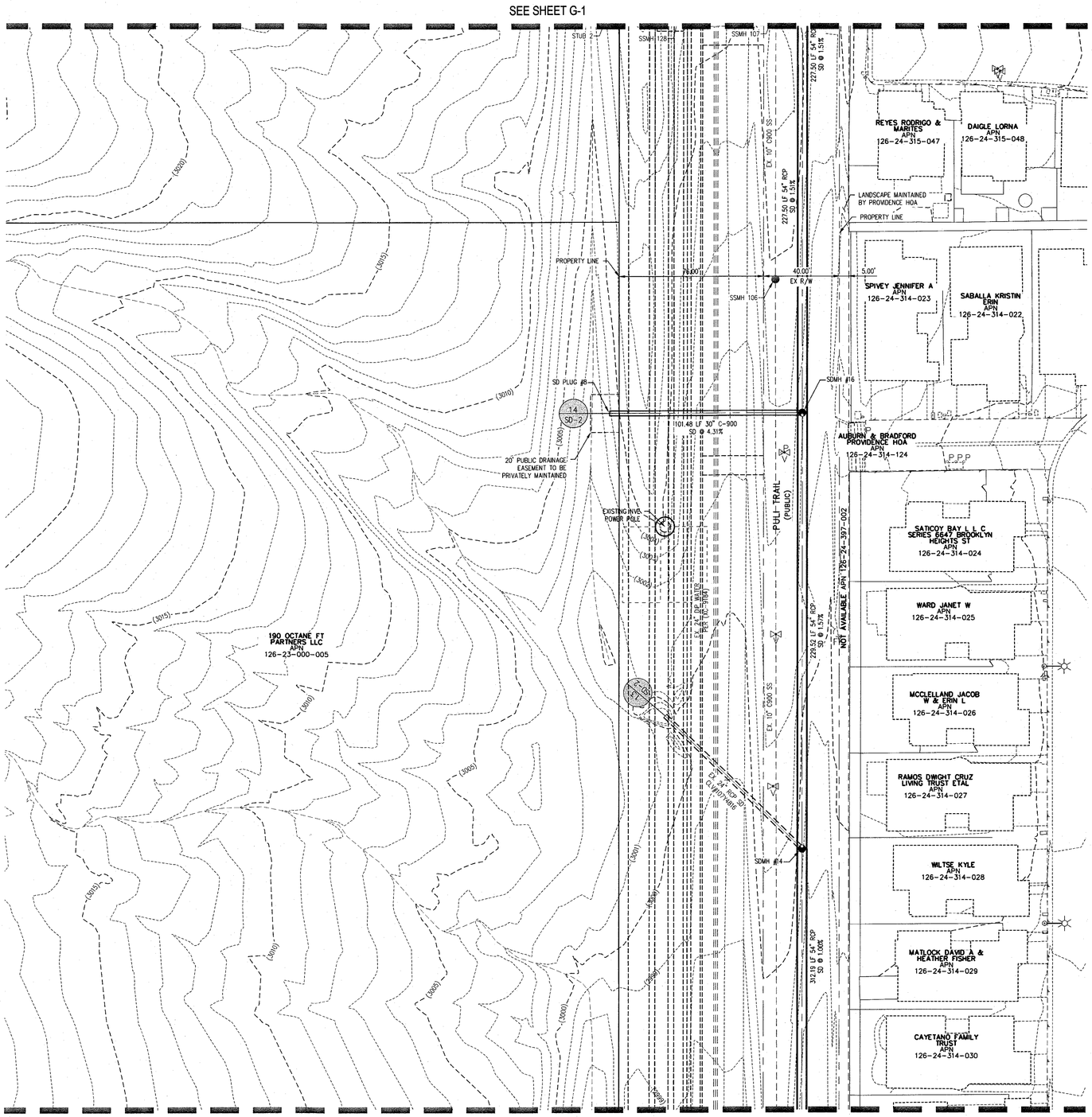
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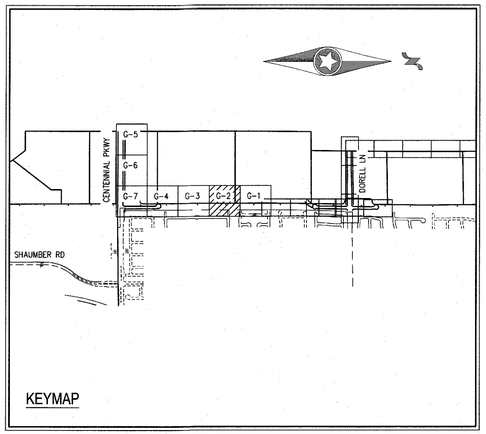
PROFESSIONAL ENGINEER – STATE OF NEVADA
JOSHUA JOHNSON
No. 15789
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7/7/20

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0 30 60
SCALE – 1"=30' FEET



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CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

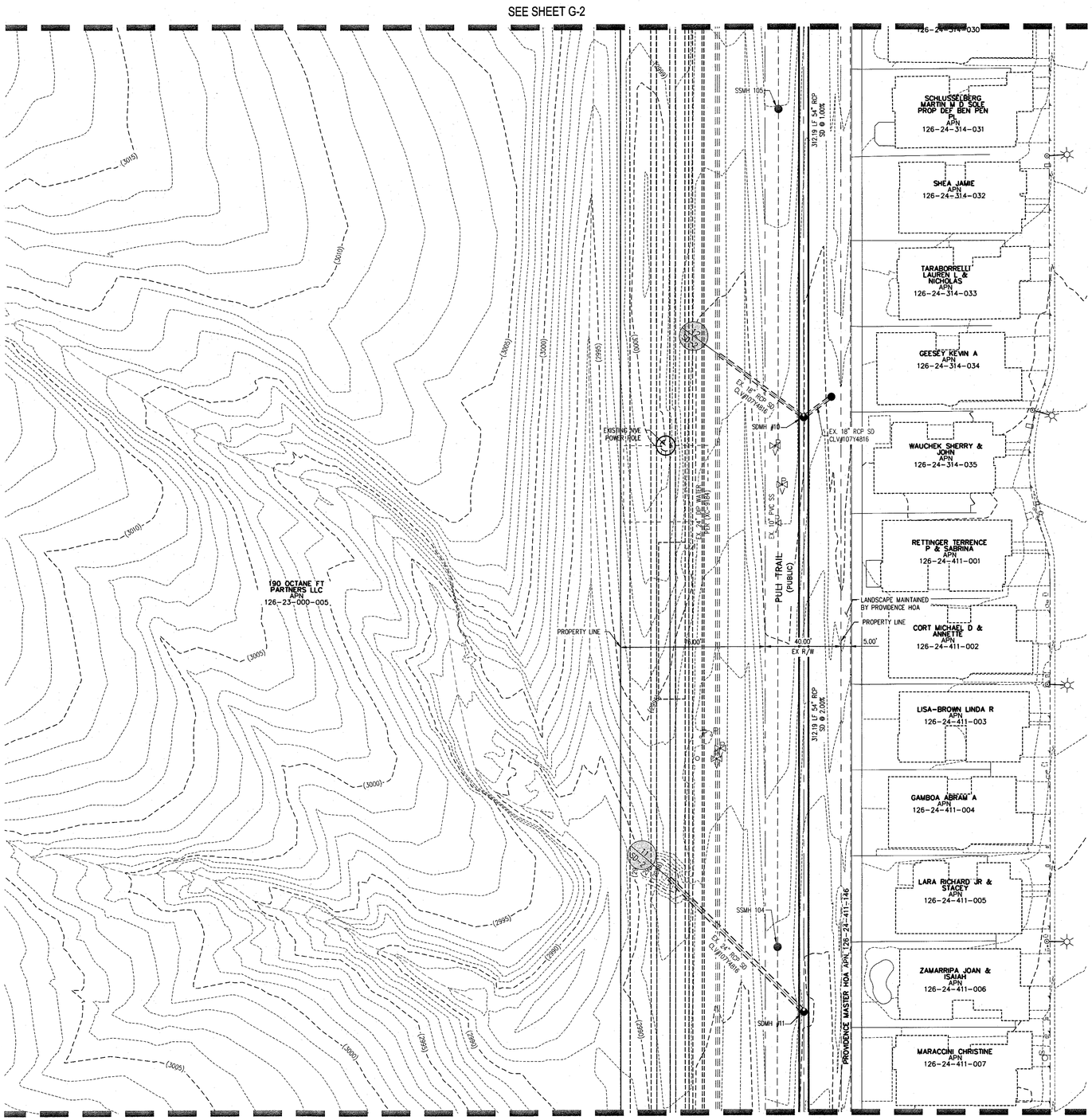
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
GRADING PLAN 2

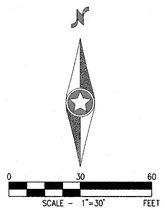
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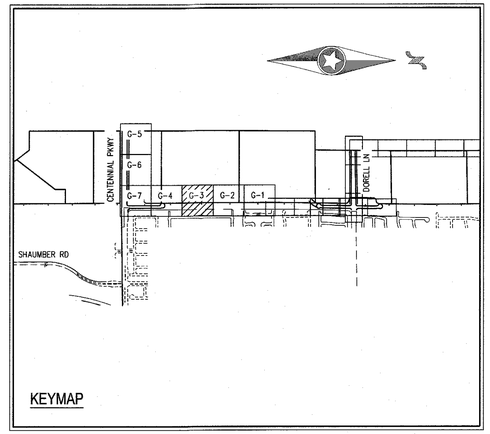
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SHEET 30 OF 50

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JOSH JOHNSON, P.E. 15789 — DATE







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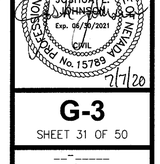
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CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

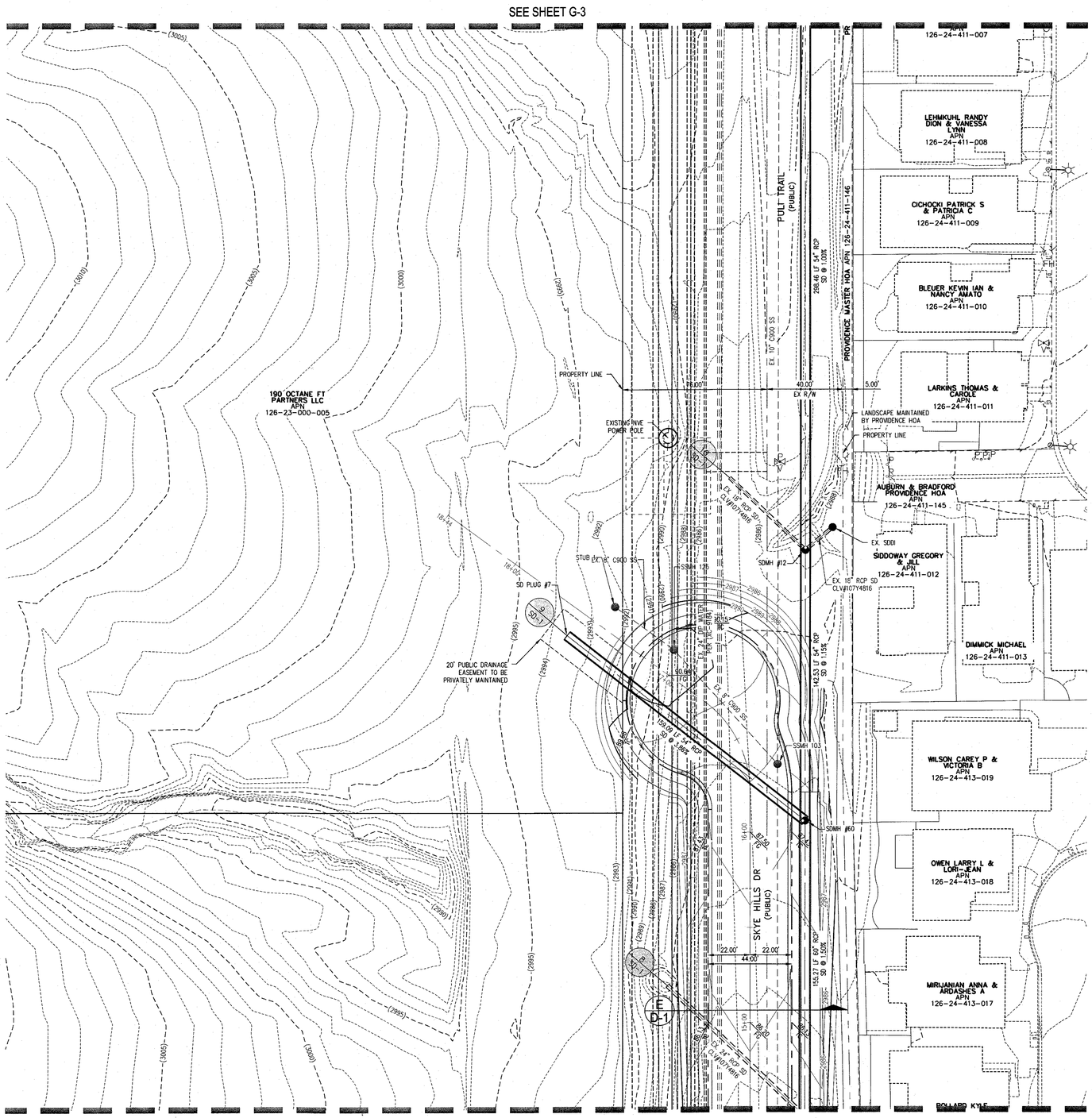
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
GRADING PLAN 3

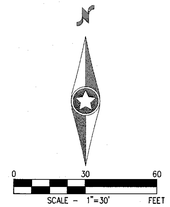
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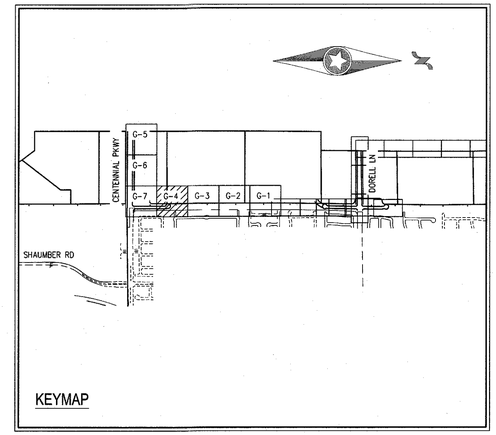


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Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

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Suite 216
Las Vegas, NV 89118
Phone (702) 284-5300
Fax (702) 284-5399
westwoodps.com
Westwood Professional Services, Inc.

NO.	DESCRIPTION	DATE	BY	APP DATE	APP

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

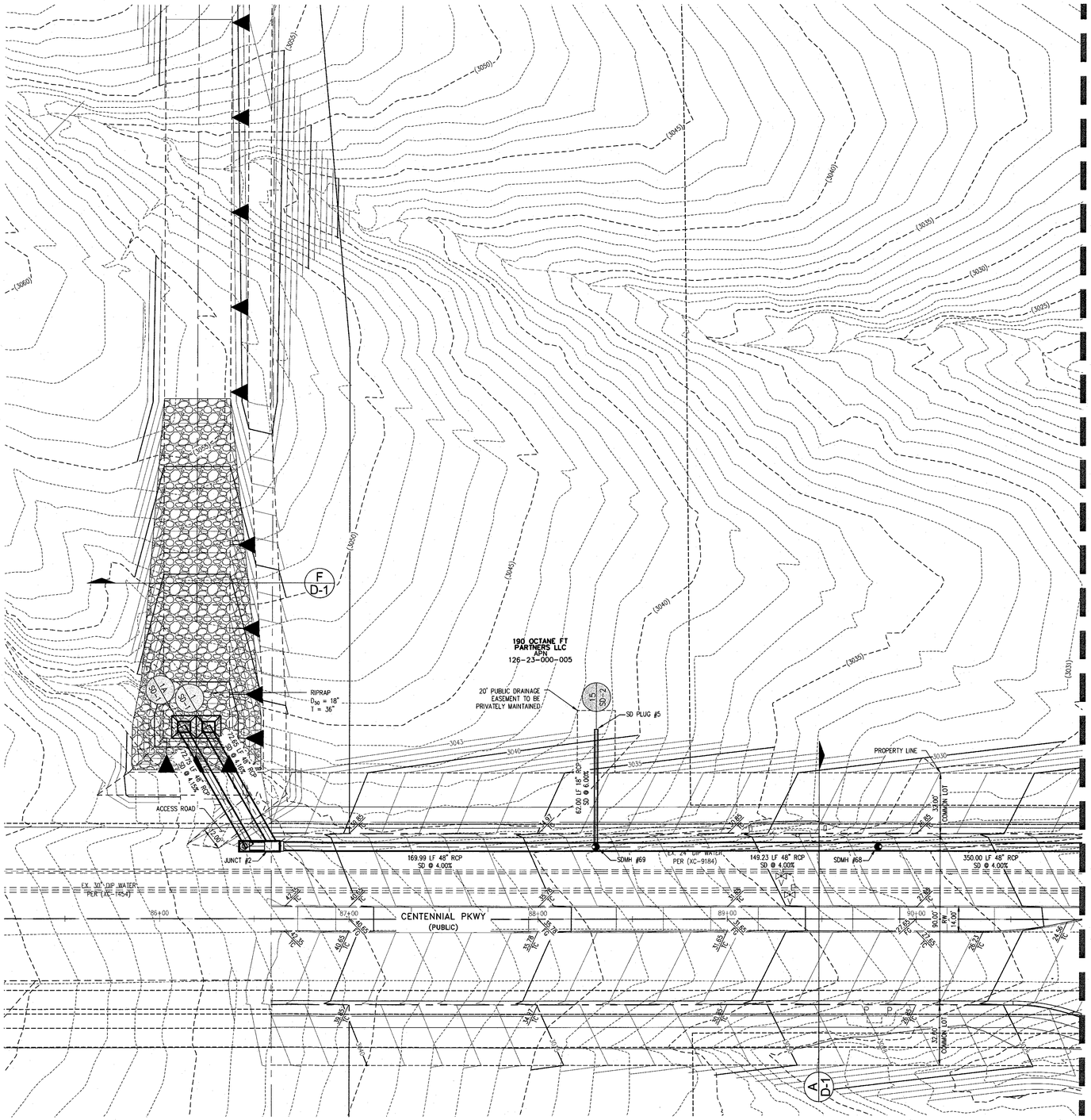
BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
GRADING PLAN 4

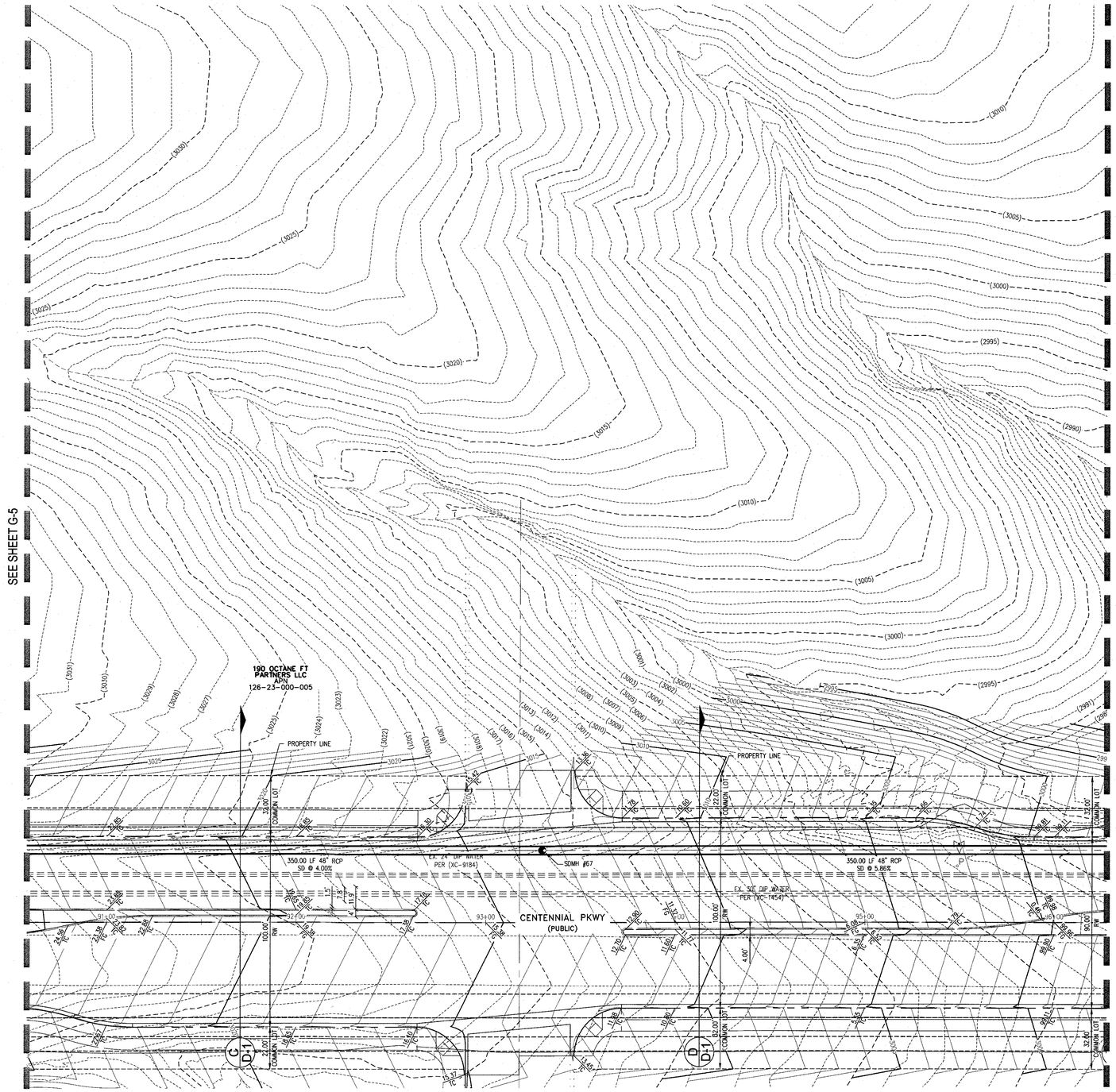
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DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER STATE OF NEVADA
JOSHUA L. JOHNSON
Exp. 06/30/2021
CIVIL
No. 15789

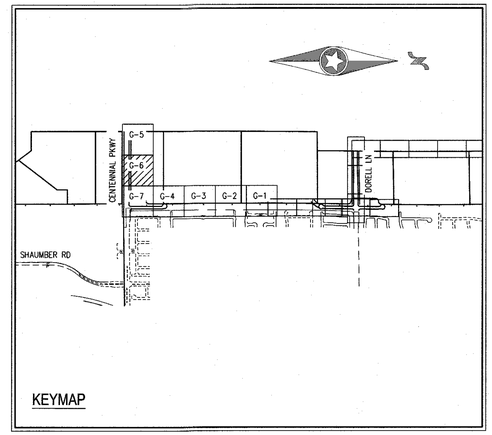
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KEYMAP

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

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2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
3. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
4. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
5. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
6. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
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CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

SURVEY NOTE

OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

NOTE

PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICES SUCH AS BUT NOT LIMITED TO THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF THE VEGETATION.

EASEMENT NOTE

REFER TO HORIZONTAL CONTROL PLAN FOR EASEMENT DESIGNATION DETAIL AND RECORDED DOCUMENT NUMBERS.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
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FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (AREA OUTSIDE THE 500 YEAR FLOODPLAIN), PER THE FEMA FIRM PANELS 1750 DATED SEPTEMBER 27, 2002

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY OS-05284 ON FILE AT CITY OF LAS VEGAS.

JOSH JOHNSON, P.E. 15789 — DATE

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CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

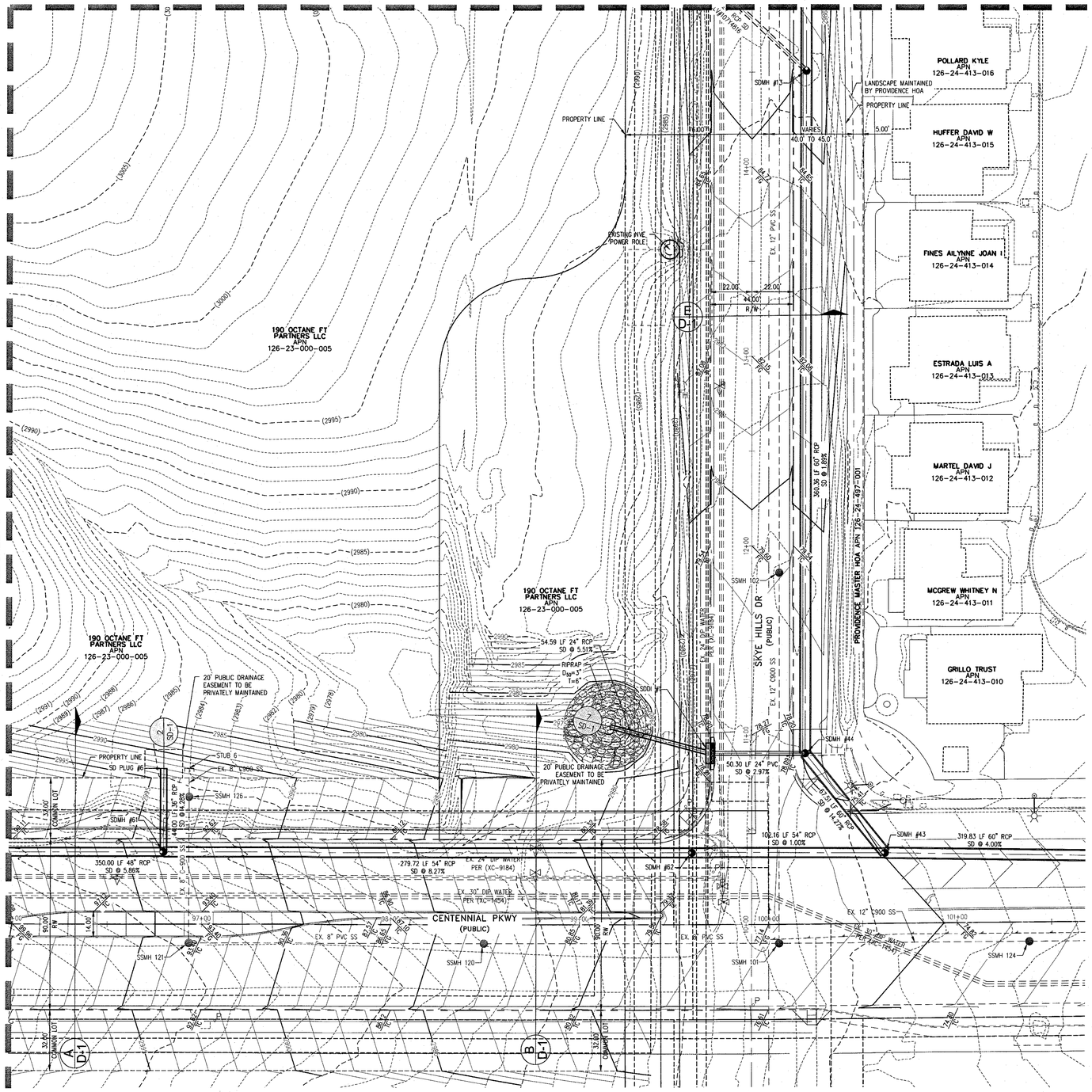
BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY GRADING PLAN 6

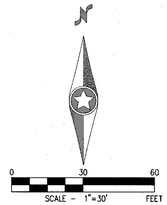
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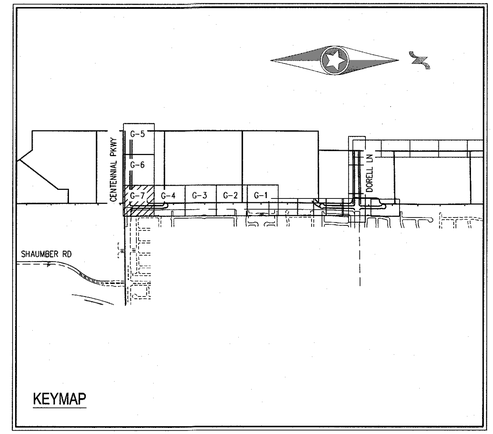
PROFESSIONAL ENGINEER - STATE OF NEVADA
JOSHUA L. JOHNSON
Cert. No. 15789
EXPIRES 06/30/2021
5/12/20

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SHEET 34 OF 50

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY GRADING PLAN 7

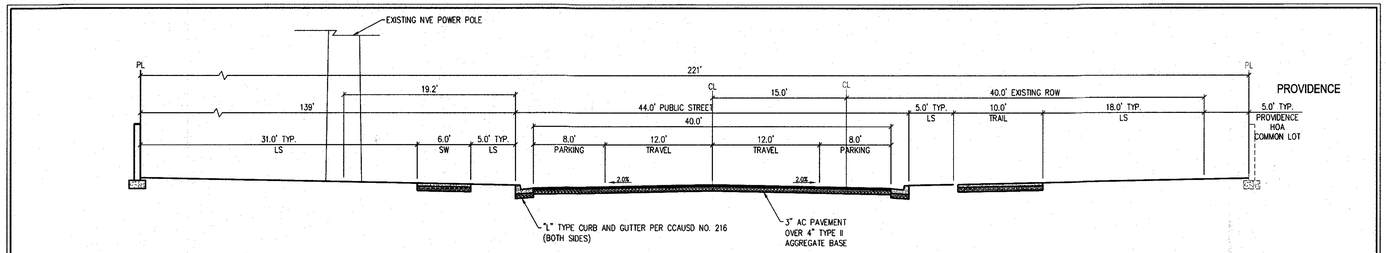
DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO. OLY1923-000

PROFESSIONAL ENGINEER - STATE OF NEVADA - JOSHUA L. JOHNSON - Exp. date: 06/30/2021 - CIVIL - No. 15789

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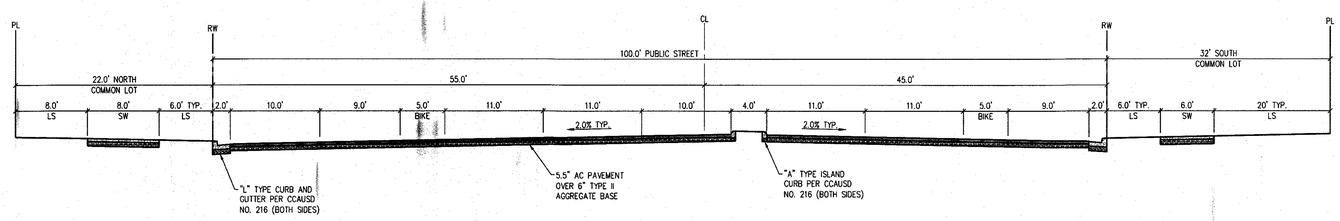
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E NEIGHBORHOOD COLLECTOR

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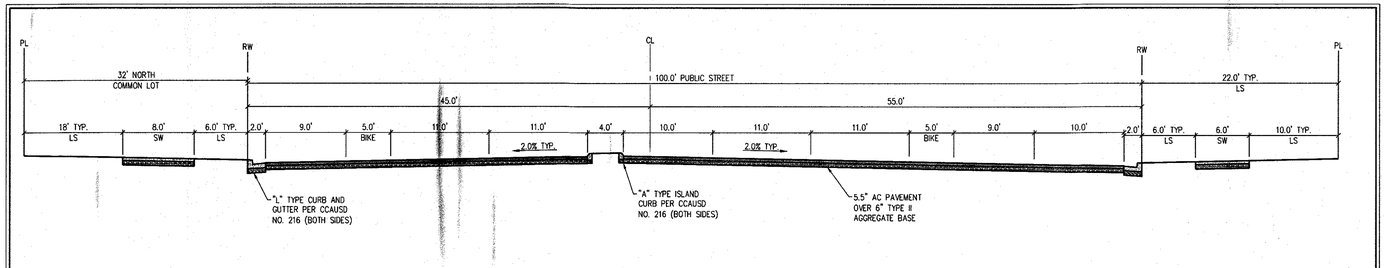
PUBLIC ON-STREET PARKING ALLOWED



D ARTERIAL STREET WITH RIGHT TURN LANE, LEFT TURN POCKET & BIKE LANES

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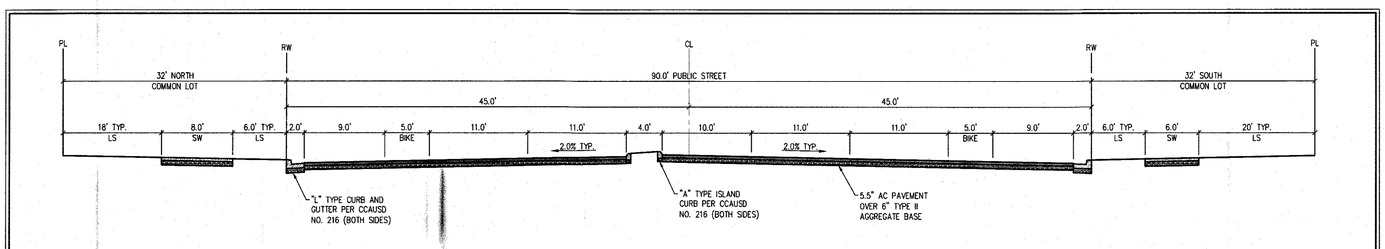
CENTENNIAL PKWY



C ARTERIAL STREET WITH RIGHT TURN LANE, LEFT TURN PORCKET & BIKE LANES

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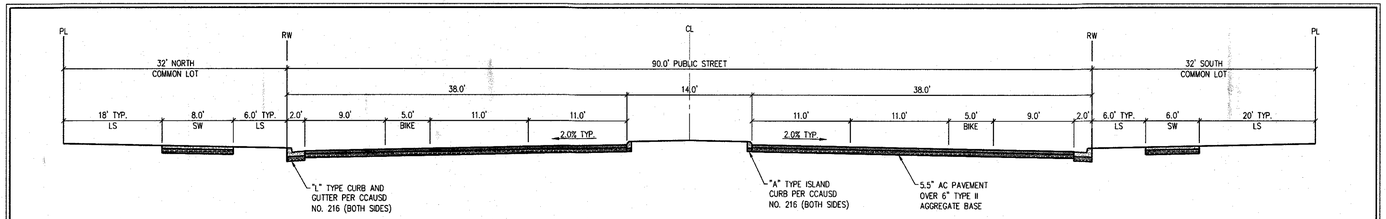
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B ARTERIAL STREET WITH BIKE LANES (LEFT TURN LANE)

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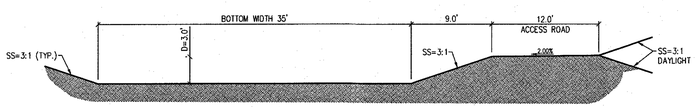
CENTENNIAL PKWY



A ARTERIAL STREET WITH BIKE LANES

NOT TO SCALE

CENTENNIAL PKWY



F INTERIM CHANNEL

NOT TO SCALE

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Phone (702) 284-5300
Fax (702) 284-5399
5740 S. Arville Street
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Las Vegas, NV 89118
westwoodps.com
Westwood Professional Services, Inc.

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CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
DETAIL SHEET 1

DATE: 5/12/2020

DRAFTER: TD

DESIGNER: TD

CHECKED: JJ

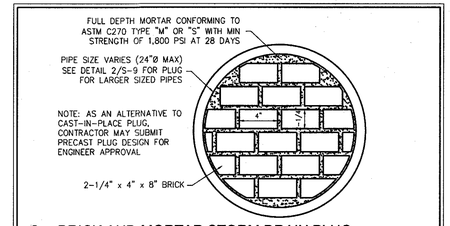
PROJECT NO.
OLY1923-000

JOSHUA L. JOHNSON
STATE OF NEVADA
PROFESSIONAL ENGINEER
EXP. 06/30/2021
No. 15789
CIVIL
7/20

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SHEET 36 OF 50

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2 BRICK AND MORTAR STORM DRAIN PLUG

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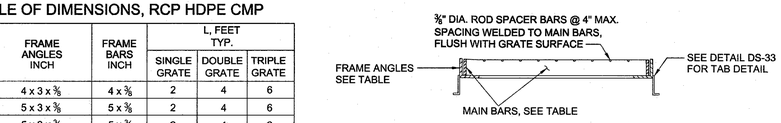
BILL OF MATERIALS, RCP HDPE CMP

PIPE SIZE INCH	H MIN. FT.	SINGLE, ONE GRATE ✱CONCRETE CU. YD. BASE QUAN. H MIN.	SINGLE, ONE GRATE ✱CONCRETE CU. YD. ADD RATE C.Y./FT.	SINGLE, ONE GRATE ✱REINF. LB. BASE QUAN. H MIN.	SINGLE, ONE GRATE ✱REINF. LB. ADD RATE LB./FT.	SINGLE, ONE GRATE STR. STEEL LB.	DOUBLE, TWO GRATES ✱CONCRETE CU. YD. BASE QUAN. H MIN.	DOUBLE, TWO GRATES ✱CONCRETE CU. YD. ADD RATE C.Y./FT.	DOUBLE, TWO GRATES ✱REINF. LB. BASE QUAN. H MIN.	DOUBLE, TWO GRATES ✱REINF. LB. ADD RATE LB./FT.	DOUBLE, TWO GRATES STR. STEEL LB.	TRIPLE, THREE GRATES ✱CONCRETE CU. YD. BASE QUAN. H MIN.	TRIPLE, THREE GRATES ✱CONCRETE CU. YD. ADD RATE C.Y./FT.	TRIPLE, THREE GRATES ✱ REINF. LB. BASE QUAN. H MIN.	TRIPLE, THREE GRATES ✱ REINF. LB. ADD RATE LB./FT.	TRIPLE, THREE GRATES STR. STEEL LB.
≤ 15	2.50	0.71	0.19	36	10	211	1.06	0.26	50	13	397	1.41	0.33	70	17	583
18	3.00	0.89	0.20	40	10	306	1.31	0.28	56	13	574	1.72	0.35	77	18	842
24	3.50	1.08	0.22	58	12	349	1.56	0.30	80	15	652	2.04	0.37	105	20	956
30	4.00	1.28	0.24	63	12	390	1.83	0.31	86	16	729	2.38	0.39	113	20	1068
36	4.50	1.50	0.26	67	13	524	2.11	0.33	92	16	980	2.72	0.41	120	21	1435
42	5.00	1.71	0.28	90	15	575	2.39	0.35	120	18	1073	3.07	0.43	154	22	1571
48	5.50	1.94	0.30	95	15	707	2.68	0.37	127	18	1329	3.42	0.44	163	23	1951

✱THE CONCRETE AND REINFORCING QUANTITIES ARE BASED ON THE H MIN. SHOWN. INCREASE THE CONCRETE AND REINFORCING BASE QUANTITY BY THE CORRESPONDING ADD RATE, PER FOOT OF INCREASED H, IF THE H SPECIFIED IS LARGER THAN H MIN

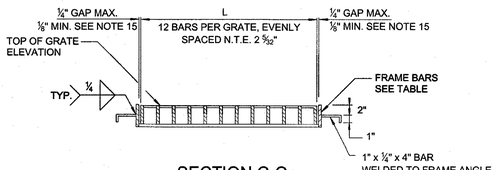
TABLE OF DIMENSIONS, RCP HDPE CMP

PIPE SIZE INCH	A	MAIN BARS INCH	FRAME ANGLES INCH	FRAME BARS INCH	L, FEET TYP. SINGLE GRATE	L, FEET TYP. DOUBLE GRATE	L, FEET TYP. TRIPLE GRATE
≤ 15	2'	3 ½ x ⅜	4 x 3 x ⅜	4 x ⅜	2	4	6
18	2' - 6"	4 ½ x ⅜	5 x 3 x ⅜	5 x ⅜	2	4	6
24	3'	4 ½ x ⅜	5 x 3 x ⅜	5 x ⅜	2	4	6
30	3' - 6"	4 ½ x ⅜	5 x 3 x ⅜	5 x ⅜	2	4	6
36	4'	5 ½ x ⅜	6 x 3 ½ x ⅜	6 x ⅜	2	4	6
42	4' - 6"	5 ½ x ⅜	6 x 3 ½ x ⅜	6 x ⅜	2	4	6
48	5'	5 ½ x 7/16	6 x 3 ½ x ⅜	6 x ⅜	2	4	6

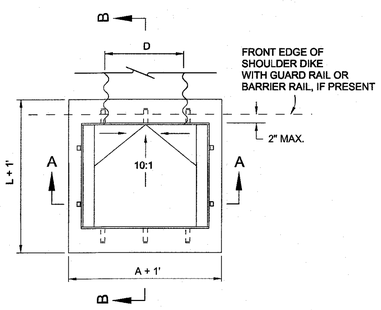


SECTION D-D

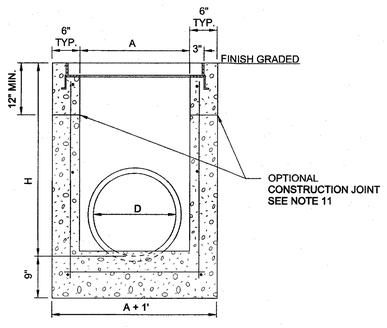
SECTION B-B



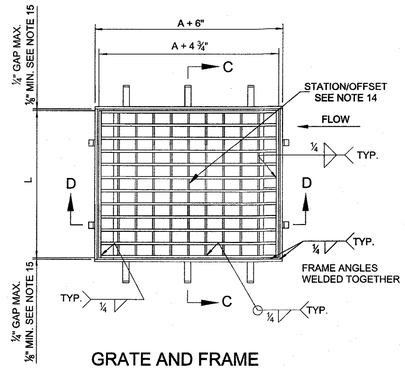
SECTION C-C



PLAN



SECTION A-A



GRATE AND FRAME

1 NDOT TYPE 2 DROP INLET

NOT TO SCALE

NOTES:

1. All concrete shall be class A or AA.
2. Reinforcing steel shall be No. 4 bars with maximum spacing at 18-inches on center, wired tightly at all intersections and embedded 2-inches clear of all concrete surfaces.
3. Exposed edges of concrete shall be chamfered 1-inch.
4. Dimensions may be varied to fit local conditions if ordered by the Engineer. If a D.I. is to be precast, contractor shall verify actual "H" value prior to casting, to account for varying field conditions. This will then be approved by the Engineer.
5. Commercial prefabricated gratings approved by the bridge division may be used in lieu of the field-welded grating shown.
6. Extreme low cover situations to be reviewed by hydraulics engineer.
7. Slope catch basin floors 10:1 from all directions toward outlet pipe. If basin is used as a junction, shape flow line(s) to outlet pipe and provide a 10:1 slope to flow line(s).
8. See detail DS-27 for details if connecting HDPE pipe.
9. A single Type 2 drop inlet shall be constructed unless a double or triple is specified.
10. Single grate configuration shown for clarity. Outside dimensions of each grate shall measure 2-feet by A + 4 ¾-inches.
11. Run rebar continuously through construction joint. Joint must be a minimum of 3-inches from horizontal bars.
12. Weld one tab on ℄ of grate and remaining two tabs 6-inches from edge of frame. Six tabs per inlet, three tabs on each side.
13. Weld tabs 6-inches from edge of frame. Four tabs per grate, two on each side.
14. For multiple grate installations, the station/offset is to the center of the concrete drop inlet structure.
15. Grate is to fit in the frame and be easily removed. If the gap between the grate and frame is greater than ¼-inches on each side of the grate, the grate and frame shall be removed and reconstructed to the tolerances specified, or with approval of the Engineer, a filler strip up to ¼-inches in thickness may be welded flush to the top of the frame to reduce the gap to a maximum of ¼-inches.
16. Additional pipe penetrations may be placed in any wall. Pipe penetrations are to be to the center of the structure wall unless specified otherwise.
17. "A" dimension is parallel to the flow or edge of pavement/shoulder dike or barrier rail, and "L" is perpendicular to the flow or edge of pavement/shoulder dike or barrier rail.
18. "L" dimension can be less than 2-feet. If less than 2-feet, bar spacing shall not exceed 2 5/32-inches.

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Suite 216
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westwoodps.com
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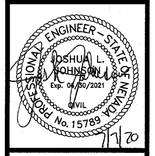
CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE
CENTENNIAL PARKWAY
DETAIL SHEET 2

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000

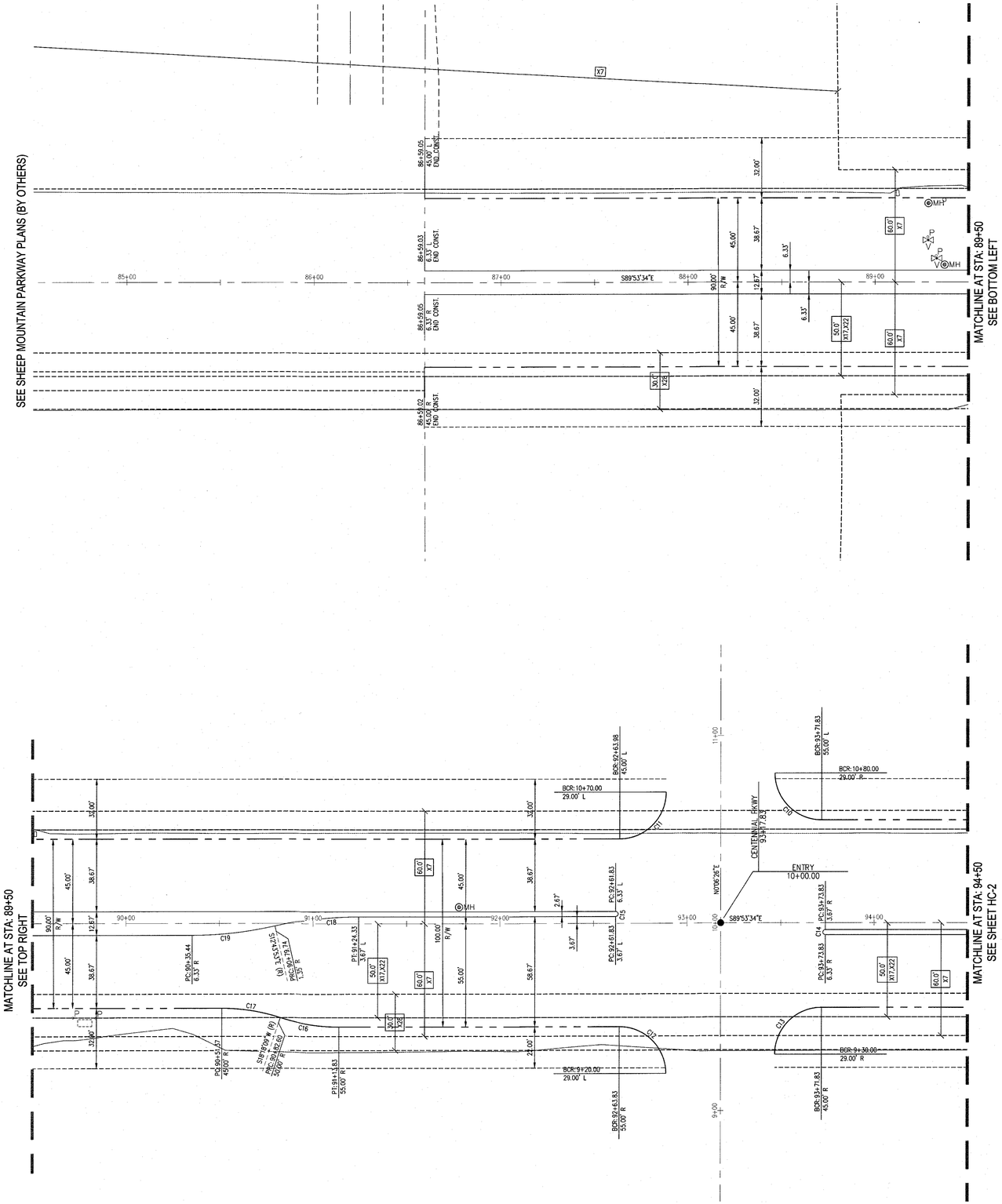


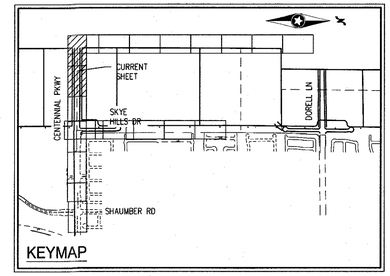
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SHEET 37 OF 50

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CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	47.22'	30.00'	90°11'34"	30.10'
C2	47.41'	30.00'	90°32'30"	30.28'
C3	4.19'	1.33'	180°00'00"	INFINITY'
C4	44.96'	200.67'	12°50'19"	22.58'
C5	44.67'	199.33'	12°50'19"	22.43'
C6	49.95'	249.33'	11°28'42"	25.06'
C7	50.22'	250.67'	11°28'42"	25.19'
C8	31.76'	100.00'	18°11'42"	16.01'
C9	31.76'	100.00'	18°11'42"	16.01'
C10	39.27'	25.00'	90°00'00"	25.00'
C11	39.27'	25.00'	90°00'00"	25.00'
C12	39.27'	25.00'	90°00'01"	25.00'
C13	39.27'	25.00'	90°00'00"	25.00'
C14	4.19'	1.33'	180°00'00"	1640532.71'
C15	4.19'	1.33'	180°00'00"	INFINITY'
C16	31.76'	100.00'	18°11'44"	16.01'
C17	31.76'	100.00'	18°11'43"	16.01'
C18	44.96'	200.67'	12°50'19"	22.58'
C19	44.67'	199.33'	12°50'19"	22.43'
C20	31.01'	82.00'	21°39'58"	15.69'

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C21	25.08'	19.50'	73°41'32"	14.61'
C22	10.97'	19.50'	32°14'19"	5.64'
C24	186.80'	40.50'	264°15'54"	44.77'

EXISTING EASEMENTS

- X2 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-57071 RECORDED PER OR:960910:00706
- X5 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-75351
- X7 BLM RIGHT-OF-WAY GRANT TO THE CITY OF LAS VEGAS PER CASE FILE N-77772 FOR ROADS, SANITARY SEWER AND DRAINAGE FACILITIES RECORDED PER OR:20140708:03117 AND OR:20180412:01042
- X8 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-78122 RECORDED PER OR:20140917:00184
- X9 BLM RIGHT-OF-WAY GRANT TO THE CITY OF LAS VEGAS PER CASE FILE N-78524 FOR ROADS, SANITARY SEWER AND DRAINAGE FACILITIES RECORDED PER OR:20050321:04894
- X11 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-82276 RECORDED PER OR:20061004:01958
- X17 BLM RIGHT-OF-WAY GRANT TO THE CITY OF LAS VEGAS PER CASE FILE N-96824 FOR ROADS, DRAINAGE AND SEWER
- X21 BLM RIGHT-OF-WAY GRANT TO THE LAS VEGAS VALLEY WATER DISTRICT PER CASE FILE N-78008 RECORDED PER OR:20040920:01423
- X22 BLM RIGHT-OF-WAY GRANT TO THE LAS VEGAS VALLEY WATER DISTRICT PER CASE FILE N-78008-2
- X25 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-97350 (PREVIOUSLY N-57071)
- X26 BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-97351 (PREVIOUSLY N-75351)
- X28 PENDING BLM RIGHT-OF-WAY GRANT TO NEVADA POWER COMPANY PER CASE FILE N-97353 (PREVIOUSLY N-96202 AND N-96202-01

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS AND LAS VEGAS HIGH ELEVATION ZONES, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

ZONE: LAS VEGAS ZONE

DATUM (REFERENCE FRAME): NAD 1983(2011) EPOCH 2010.00

SYSTEM: NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

PROJECTION: TRAVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORIGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.00 M (656,166.6667 FEET US)
EASTING AT CENTRAL MERIDIAN: 100,000.00 M (328,083.3333 FEET US)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
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2) GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARING DUE TO MERIDIAN CONVERGENCE.

SURVEY NOTE

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- SET 2" ALUMINUM CAP STAMPED "J. KLINE, PLS 17827" WITH REFERENCE MONUMENTS SET IN TOP OF CURB (UNLESS OTHERWISE NOTED)

BENCHMARK

BENCHMARK NUMBER: 6LV9913W4

RIVET AND PLATE ON TOP OF CURB AT THE NORTHEAST CORNER OF FARM ROAD AND MAINWAL BOULEVARD

ELEVATION = 3054.93 FEET, 931.43 METERS
N.A.V.D. 88 DATUM

PER THE CITY OF LAS VEGAS VERTICAL CONTROL WEBSITE

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY HORIZONTAL CONTROL PLAN 1

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ
PROJECT NO.
OLY1923-000

PROFESSIONAL ENGINEER STATE OF NEVADA
JOSHUA JOHNSON
No. 15789
Exp. 09/30/2021
5/11/20

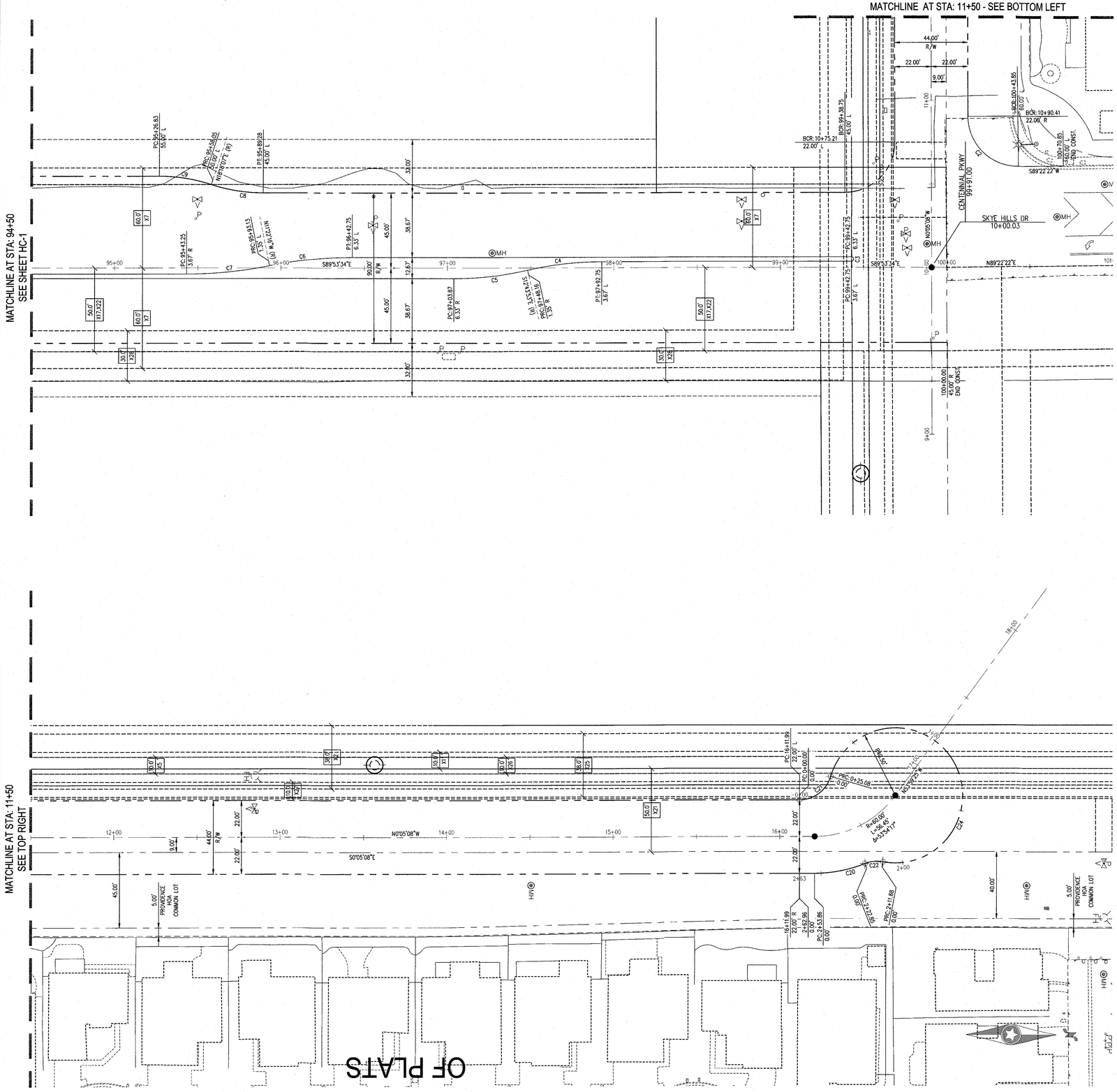
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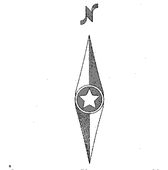
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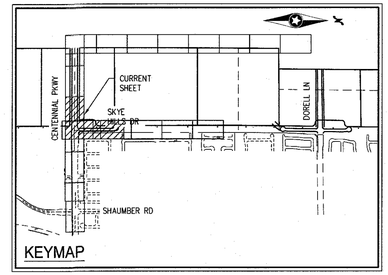
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OF PLATS

EXISTING EASEMENTS

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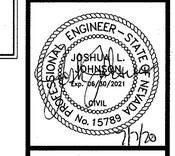
CITY OF LAS VEGAS

190 OCTANE FT PARTNERS, LLC

BLM 270 INFRASTRUCTURE CENTENNIAL PARKWAY HORIZONTAL CONTROL PLAN 2

DATE: 5/12/2020
DRAFTER: TD
DESIGNER: TD
CHECKED: JJ

PROJECT NO.
OLY1923-000



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