



CITY OF WHEATLAND

CITY COUNCIL MEETING STAFF REPORT

January 28, 2020

SUBJECT: Approve Revised Plans and Specifications, and Authorize Bidding of the Hooper Street Improvement Project

PREPARED BY: Dane H. Schilling – City Engineer, and
Asa Utterback – Coastland Engineering

Recommendation

Adopt a resolution approving the revised plans and technical specifications, and authorize the City Engineer to proceed with the bidding process for the construction of the Hooper Street Improvement Project.

Background/Discussion

Hooper Street from Highway 65 to Olive Street fronts Wheatland Elementary School and serves as the primary route from the north end of the city for school buses, students and school staff that access the school properties in the area. The road surface in this segment is in poor condition with persistent potholes that require continued maintenance. This area is also known for being congested with pedestrians and vehicles before and after school.

Wheatland Elementary School has diagonal parking and a concrete sidewalk along the westerly side on school property. Paved diagonal parking is present on the easterly side of Hooper Street without any other improvements and is within the City's 50-ft road right-of-way.

During school drop-off and pick-up times this road segment becomes congested with cars parking to drop students off, cars passing through to drop students in the rear drop-off area created by the school, cars passing through the City on Hwy-65 who are attempting to short-cut around the traffic back-up at the traffic signal at First Street and students walking to the front of the school from surrounding neighborhoods and from vehicles.

On April 23, 2019, City Council authorized the City engineer to proceed with soliciting bids for the construction of the Hooper Street Improvement Project. At the close of the bid period on June 4th, staff received one bid from Central Valley Engineering and Asphalt of Roseville. No other bids were submitted. Central Valley's bid was found to be responsive, but their Base Bid amount was \$621,596.29 which far exceeded the engineer's estimate and the construction budget.

Staff obtained feedback from contractors who would be likely bidders on the Project to determine the factors that led to the poor bid response. The Council rejected the bid received on June 11, 2019, giving direction that staff fully investigate options and bring back a recommendation at a later date.

Staff has investigated the options and made changes to the designed project and the planned delivery to address each of the concerns which led to the inflated bid in June. The changes will not substantially affect the ultimate value or impact of the project, but are expected to result in better bids. The changes are summarized as follows:

1. Restrictive timing of project construction when school is out of session – Staff consulted with the school district and the district has agreed to make allowance for the work to occur while school is in session. In the cooperative interest of achieving these much-needed improvements, the school has determined that they can safely and sufficiently operate with the temporary closure of Hooper Street for construction by making use of the school's other parking access areas for student drop-off. While provisions will be made in the construction contract that allow for potential construction in the summer, the amount of time allowed and the flexibility to work during the school year will make a substantial improvement in the biddability of the project without compromising student or general public safety.
2. Caltrans permit – With the additional time allowed in the current schedule, staff was able to progress with the Caltrans permitting process to alleviate any concerns of unknown impacts by Caltrans. The allowance for more time to construct the project should also alleviate concerns about the effect of delays by Caltrans on the Contractor's ability to meet contract time requirements.
3. Reduced complexity – The revised design reduces the project complexity and quantity of work without compromising the primary project goals and objectives. The revised configuration was reviewed with the School District and it was determined to be sufficient to address the traffic calming and student safety needs originally envisioned for this project.
4. Old concrete pavement extent confirmed – City crews field verified the depth and extent of the old concrete roadway within Hooper Street, which enabled the plans to clearly define a greatly reduced amount of related work. This should alleviate any of the previous bidder concerns about it presenting a large amount of work or project complexity.

With Council authorization and receipt of an encroachment permit from Caltrans, the project is planned to be advertised for bid in early February with bid opening in early March. The construction contract would be awarded on March 24th and construction could begin in mid-April 2020.

Staff has determined that no significant environmental impacts could occur as a result of this project and therefore the project is categorically exempt under CEQA.

Alternatives

Alternatively, the City Council may choose to not to authorize the bidding of the project or modify the scope of the project.

Fiscal Impact

The current estimate of project costs is also given below.

Hooper Ave Improvements Project - Budget Estimate

Funding	
Gas Tax-Capital Outlay	\$ 65,000
Gas Tax-Anticipated cash available	\$ 41,000
TDA	\$ 168,000
Wheatland School District	\$ 50,000
SB1 FY19-20 and FY20-21	\$ 66,200
TOTAL	\$ 390,200

Expenditures	CURRENT ESTIMATE
Project Management, Design and Environmental	\$ 57,200
Construction	\$ 311,000
Construction Management & Inspection	\$ 22,000
TOTAL	\$ 390,200

Note: Estimated expenditures include a 10% contingency.

The cost estimates for the project have increased \$17,300 since the last report to the City Council. Staff proposes to allocate any additional funds from the FY20-21 SB1 funding since construction of the project will continue into the next fiscal year. A budget amendment request (if needed) will be brought to the City Council when the construction contract is ready to award (when the bids are in and real construction costs are known).

Attachments

1. Resolution
2. Construction Drawings for Hooper Street Improvement Project

RESOLUTION NO. 05-20

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WHEATLAND APPROVING THE PLANS AND SPECIFICATIONS FOR THE HOOPER STREET IMPROVEMENT PROJECT

WHEREAS, on November 27, 2018, the City Council adopted a resolution amending the adopted FY 2018-19 Budget, authorizing the City Manager to enter into a funding agreement with the Wheatland School District and authorizing the City Manager to proceed with design of the Hooper Street Improvement Project (“Project”); and

WHEREAS, the Project was unsuccessfully bid in June 2019 with the one received bid being rejected by City Council; and

WHEREAS, the Project’s design engineer, Coastland Engineering, prepared and submitted revised improvement plans and technical specifications for the Project; and

WHEREAS, Staff has determined that no significant environmental impacts could occur as a result of this project and therefore the project is categorically exempt under CEQA; and

WHEREAS, the City has applied for an encroachment permit from Caltrans and the encroachment permit must be issued prior to the start of construction within the state highway; and

WHEREAS, City staff recommends to City Council that said project improvement plans and technical specifications be approved, and authorization to bid be given to re-bid the Project;

NOW, THEREFORE IT IS HEREBY RESOLVED, ORDERED AND FOUND by the City Council of City of Wheatland, State of California, hereby approves the plans and specifications for the Hooper Street Improvement Project and authorizing the City Engineer to proceed with the bidding process.

PASSED AND ADOPTED by the City Council of City of Wheatland, State of California this 28th day of January 2020, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

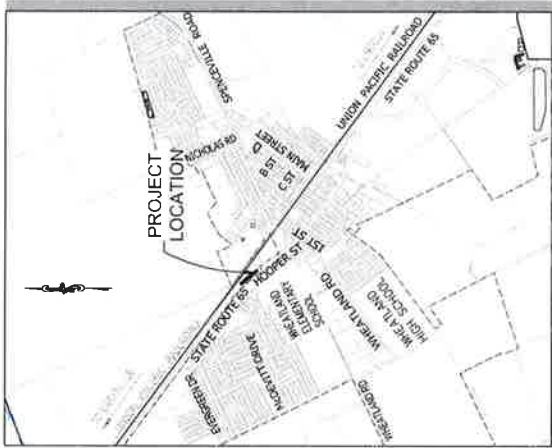
ATTEST:

Rick West, Mayor

Lisa Thomason, City Clerk

PROJECT PLANS FOR : HOOPER STREET IMPROVEMENT PROJECT DECEMBER 2019

FOR THE
CITY OF WHEATLAND
YUBA COUNTY, CALIFORNIA



LOCATION MAP
NOT TO SCALE



VICINITY MAP

SHEET INDEX

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES, ABBREVIATIONS AND LEGEND
3	TYPICAL SECTIONS AND DETAILS
4	PROPOSED PLAN
5	EXISTING PLAN
6	SITE PLAN
7	GRADING & DRAINAGE PLAN
8	SOILING & STRIPING PLAN
9	IRRIGATION
10	PLANTING
11	DETAILS
12	DETAILS
13	DETAILS

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES
HALF SIZE

BID DOCUMENTS
DATE: DECEMBER 2019



AREA: JOE UTTERDAHL, P.E. 03/7/20
DATE: 12/12/2019



Coastal Civil Engineering, Inc.
11641 Blocher Dr., Ste 170, Auburn, CA 95603
530.888.9929

CONTRACTOR SHALL POSSESS A VALID CLASS "A" LICENSE AT THE TIME CONTRACT IS AWARDED



CITY OF WHEATLAND
APPROVED
DATE: 12/12/2019
DAVE H. SCHLING, CITY ENGINEER

PROJECT NUMBER: 77-4027
DRAWING DATE: DECEMBER 2019
DRAWING NUMBER: 1 of 13

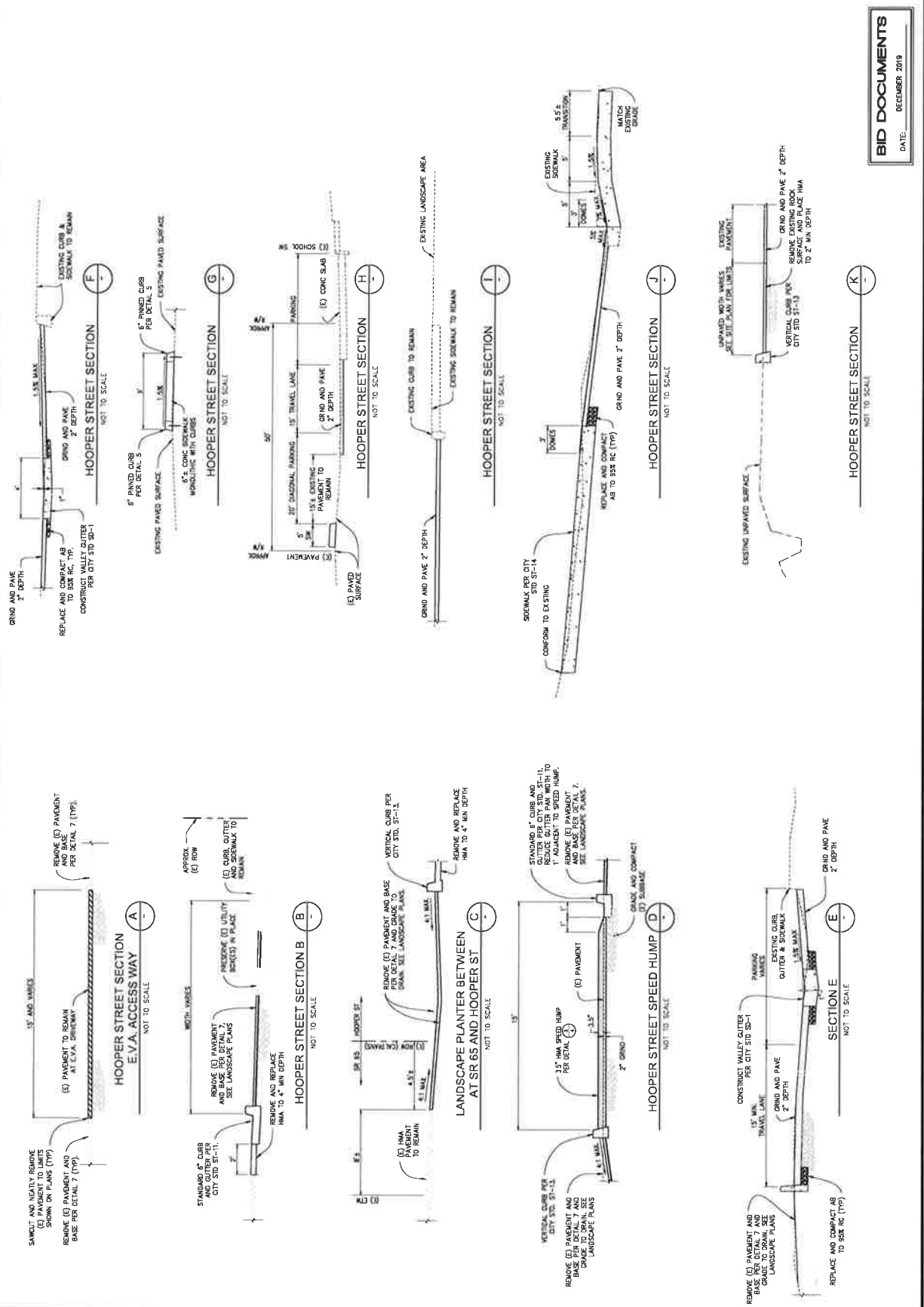


PREPARED UNDER THE DIRECTION OF
 M. J. [unreadable]
 CIVIL ENGINEER
 LICENSE NO. 47122
 STATE OF CALIFORNIA

COASTLAND CIVIL ENGINEERING, INC.
 1641 BLOOMER DR., STE 170, AUBURN, CA 95603
 530.869.8978 FAX
 530.869.8978 TEL



CITY OF WHEATLAND
 IMPROVEMENT PROJECT
 HOOPER STREET

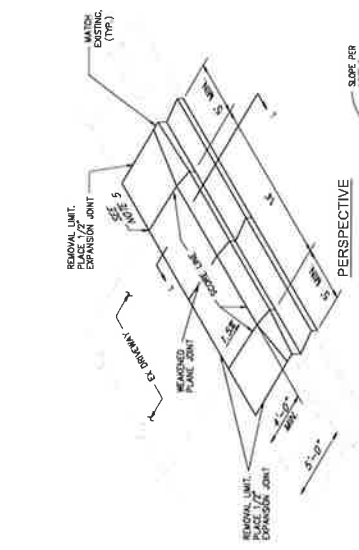
PROJECT NUMBER: 77-4027
 DRAWING DATE: DECEMBER 2019
 SHEET NUMBER: 3 OF 13
 DATE: DECEMBER 2019



BID DOCUMENTS
 DECEMBER 2019
 DATE: DECEMBER 2019

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES.
 HALF SIZE

		DETAILS HOOPER STREET IMPROVEMENT PROJECT CITY OF WHEATLAND, CALIFORNIA	PROJECT NUMBER: 77-4027 DRAWING DATE: DECEMBER 2019 SHEET NUMBER: 4 of 13
PREPARED UNDER THE DIRECTION OF KSA JOE WITTEBAEK, P.E. C57702 DATE: 12/12/2019 DWG BY: <i>M. J. ...</i> CHECKED BY: <i>M. J. ...</i> DATE: 12/12/2019		11641 Blocker Dr., Ste 170, Auburn, CA 95603 530.888.9978 Fax	

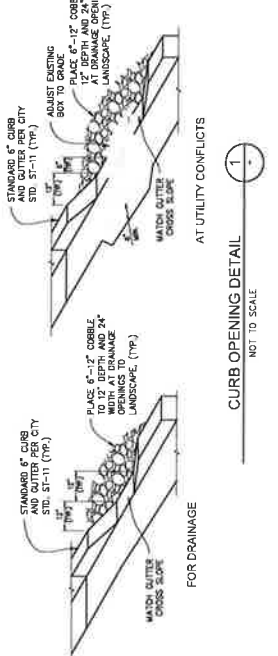


PERSPECTIVE
SECTION L-L
NOT TO SCALE

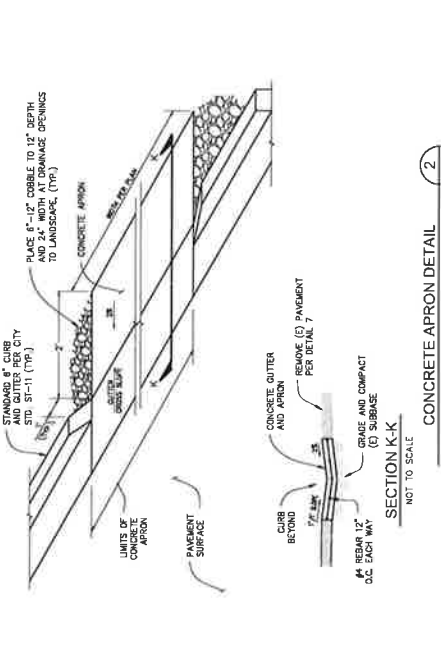
EMERGENCY VEHICLE ACCESS DRIVEWAY DETAIL
NOT TO SCALE

NOTES:

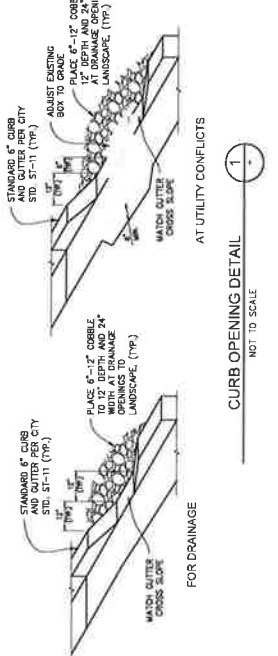
- CONSTRUCT CONCRETE DRIVEWAY PER CITY OF WHEATLAND CONSTRUCTION STANDARDS.
- SCORE LINES SHALL BE 1/4" DEEP AND FORM A SQUARE PATTERN.
- REMOVE EXISTING CURB AND OUTLET PARALLEL TO WALK AT A RIGHT ANGLE WITH THE STREET. BRUSH UP CURB AND OUTER WALL OF WALK.
- ALL SIDES SHALL HAVE 1/2" RADIUS.
- MATCH EXISTING GRADE AT BACK EDGE OF DRIVEWAY.
- ADJUST SLOPE AS REQUIRED TO MAINTAIN SIDEWALK CROSS SLOPE OF 1.5% AND MATCH GRADE AT BACK EDGE OF WALK.



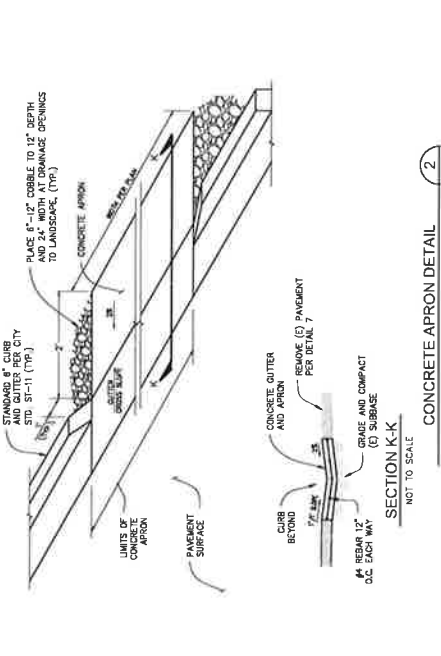
CURB OPENING DETAIL
NOT TO SCALE



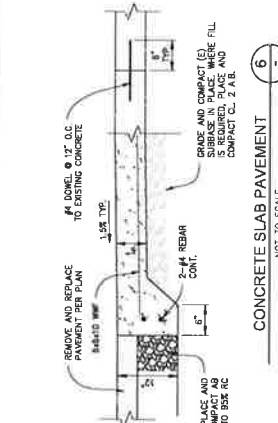
CONCRETE APRON DETAIL
NOT TO SCALE



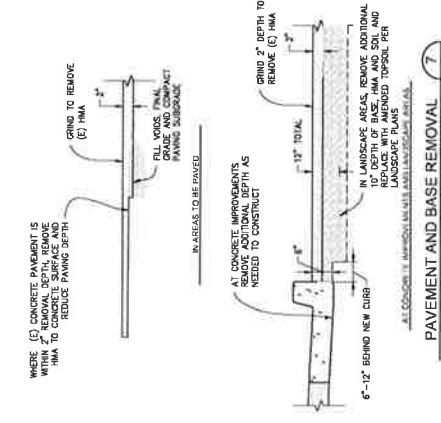
HMA SPEED HUMP DETAIL
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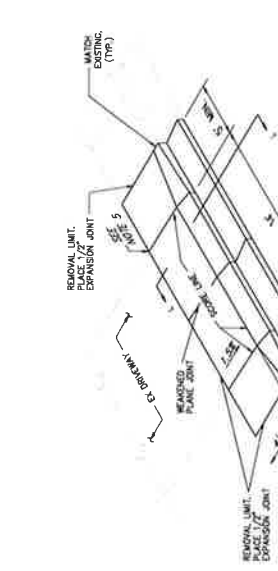
PINNED CURB AND WALKWAY DETAIL
NOT TO SCALE



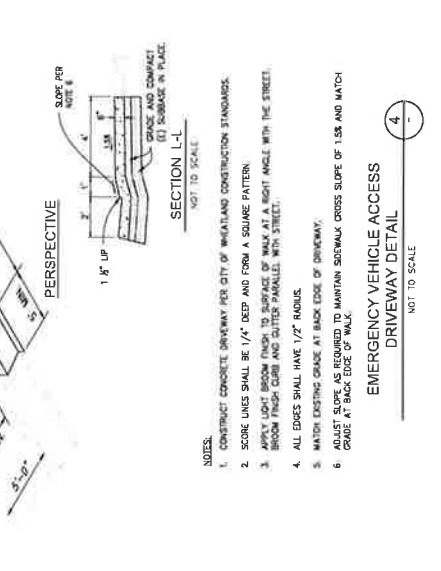
PAVEMENT AND BASE REMOVAL
NOT TO SCALE



CONCRETE SLAB PAVEMENT
NOT TO SCALE



LANDSCAPE AREA DRAIN
NOT TO SCALE



EMERGENCY VEHICLE ACCESS DRIVEWAY DETAIL
NOT TO SCALE

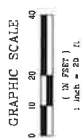
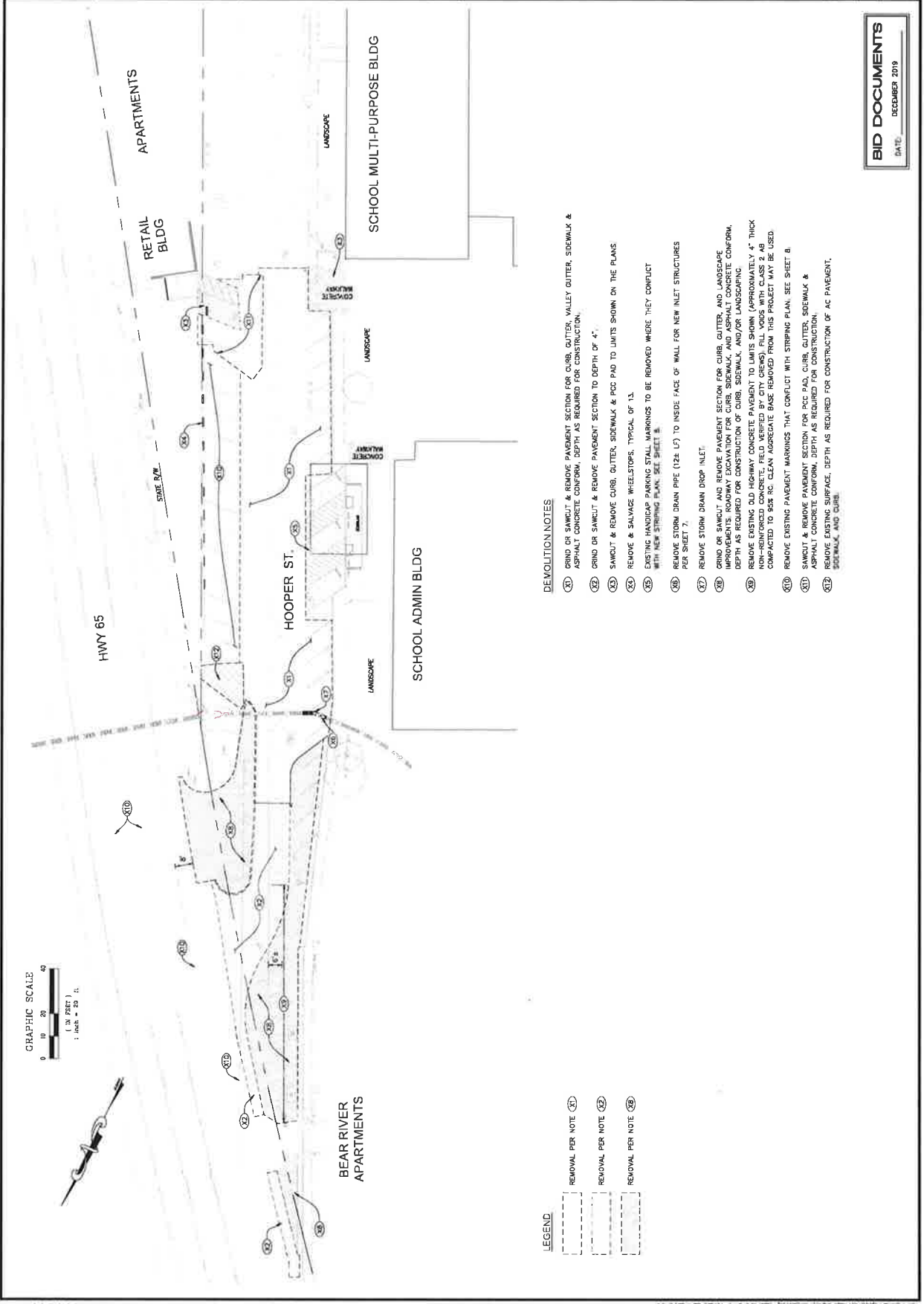


PREPARED UNDER THE DIRECTION OF
 DESIGN BY
 WAK/DLC
 REVIEWED BY
 DMS

1841 Bickner Dr. Ste 170, Auburn, CA 95803
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 Coastland Civil Engineering, Inc.

CITY OF WHEATLAND
 IMPROVEMENT PROJECT
 HOOPER STREET

DRAWING DATE
 DECEMBER 2019
 SHEET NUMBER
 5 of 13



FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES
 HALF SIZE

LEGEND

REMOVAL PER NOTE (X1)

REMOVAL PER NOTE (X2)

REMOVAL PER NOTE (X3)

DEMOLITION NOTES

- X1 GRIND OR SAWCUT & REMOVE PAVEMENT SECTION FOR CURB, GUTTER, VALLEY GUTTER, SIDEWALK & ASPHALT CONCRETE CONFORM. DEPTH AS REQUIRED FOR CONSTRUCTION.
- X2 GRIND OR SAWCUT & REMOVE PAVEMENT SECTION TO DEPTH OF 4".
- X3 SAWCUT & REMOVE CURB, GUTTER, SIDEWALK & PCC PAD TO LIMITS SHOWN ON THE PLANS.
- X4 REMOVE & SALVAGE WHEELSTOPS, TYPICAL OF 13.
- X5 EXISTING HANDICAP PARKING STALL MARKINGS TO BE REMOVED WHERE THEY CONFLICT WITH NEW STRIPING PLAN. SEE SHEET #.
- X6 REMOVE STORM DRAIN PIPE (12x 15) TO INSIDE FACE OF WALL FOR NEW INLET STRUCTURES PER SHEET 2.
- X7 REMOVE STORM DRAIN DROP INLET.
- X8 GRIND OR SAWCUT AND REMOVE PAVEMENT SECTION FOR CURB, GUTTER, AND LANDSCAPE IMPROVEMENTS. ROADWAY EXCAVATION FOR CURB, SIDEWALK, AND ASPHALT CONCRETE CONFORM. DEPTH AS REQUIRED FOR CONSTRUCTION OF CURB, SIDEWALK, AND/OR LANDSCAPING.
- X9 REMOVE EXISTING OLD HIGHWAY CONCRETE PAVEMENT TO LIMITS SHOWN (APPROXIMATELY 4" THICK CONCRETE. CONCRETE FIELD WEAR SURFACE (WITH CHIPS) FULL VOTES WITH CLASS 2 AS COMPACTED TO 98% R.C. CLEAN ASPHALTIC BASE REMOVED FROM THIS PROJECT MAY BE USED.
- X10 REMOVE EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH STRIPING PLAN. SEE SHEET B.
- X11 SAWCUT & REMOVE PAVEMENT SECTION FOR PCC PAD, CURB, GUTTER, SIDEWALK & ASPHALT CONCRETE CONFORM. DEPTH AS REQUIRED FOR CONSTRUCTION.
- X12 REMOVE EXISTING SURFACE, DEPTH AS REQUIRED FOR CONSTRUCTION OF AC PAVEMENT, SIDEWALK, AND CURB.

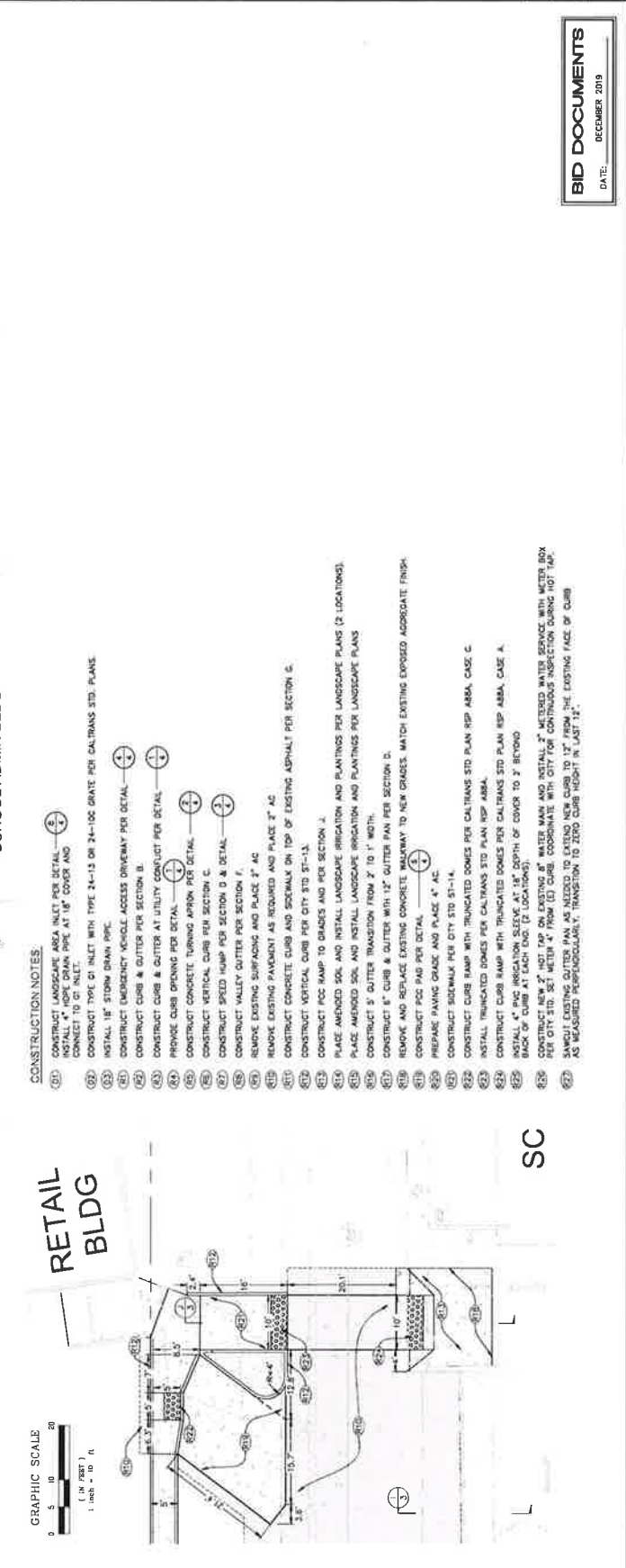
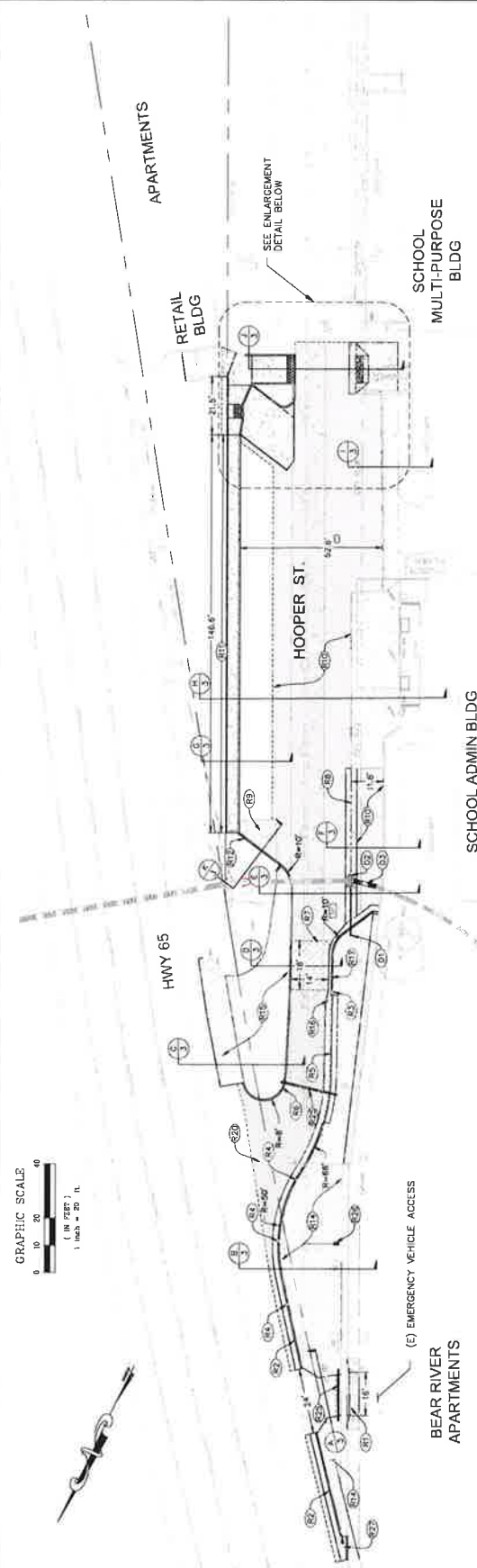
BID DOCUMENTS
 DATE: DECEMBER 2019



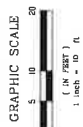
PREPARED UNDER THE DIRECTION OF
 12/12/2018
 12/12/2018
 12/12/2018

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 Coastland Civil Engineering, Inc.
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CITY OF WHEATLAND
 IMPROVEMENT PROJECT
 HOOPER STREET
 PROJECT NUMBER 77-4027
 DRAWING DATE: DECEMBER 2019
 SHEET NUMBER 6 of 13
 DATE: DECEMBER 2019



- CONSTRUCTION NOTES:**
- 01. CONSTRUCT LANDSCAPE AREA INLET PER DETAIL 6.2
 - 02. INSTALL 4" HOPE DRAIN PIPE AT 18" COVER AND CONNECT TO 6" INLET.
 - 03. CONSTRUCT TYPE D INLET WITH TYPE 2-4-13 OR 24-10C GRATE PER CALTRANS STD. PLANS
 - 04. INSTALL 18" STORM DRAIN PIPE.
 - 05. CONSTRUCT EMERGENCY VEHICLE ACCESS DRIVEWAY PER DETAIL 6.3
 - 06. CONSTRUCT CURB & GUTTER PER SECTION B.
 - 07. CONSTRUCT CURB & GUTTER AT UTILITY CONDUIT PER DETAIL 6.4
 - 08. PROVIDE CURB OPENING PER DETAIL 6.5
 - 09. CONSTRUCT CONCRETE TURNING APRON PER DETAIL 6.6
 - 10. CONSTRUCT VERTICAL CURB PER SECTION C.
 - 11. CONSTRUCT VALLEY GUTTER PER SECTION D & DETAIL 6.7
 - 12. REMOVE EXISTING SURFACING AND PLACE 3" AC
 - 13. REMOVE EXISTING PAVEMENT AS REQUIRED AND PLACE 3" AC
 - 14. CONSTRUCT CONCRETE CURB AND SIDEWALK ON TOP OF EXISTING ASPHALT PER SECTION 6.
 - 15. CONSTRUCT VERTICAL CURB PER CITY STD. 51-13.
 - 16. CONSTRUCT POC RAMP TO GRADES AND PER SECTION 4.
 - 17. PLACE AMENDED SOIL AND INSTALL LANDSCAPE IRRIGATION AND PLANTINGS PER LANDSCAPE PLANS (2 LOCATIONS).
 - 18. PLACE AMENDED SOIL AND INSTALL LANDSCAPE IRRIGATION AND PLANTINGS PER LANDSCAPE PLANS
 - 19. CONSTRUCT 5" GUTTER TRANSITION FROM 2' TO 1' WIDTH.
 - 20. CONSTRUCT 6" CURB & GUTTER WITH 12" GUTTER PAN PER SECTION D.
 - 21. REMOVE AND REPLACE EXISTING CONCRETE WALKWAY TO NEW GRADES. MATCH EXISTING EXPOSED AGGREGATE FINISH.
 - 22. CONSTRUCT POC PAD PER DETAIL 6.8
 - 23. PREPARE PAVING GRADE AND PLACE 4" AC
 - 24. CONSTRUCT SIDEWALK PER CITY STD. 51-14.
 - 25. CONSTRUCT CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STD. PLAN RSP AREA, CASE C.
 - 26. INSTALL TRUNCATED DOMES PER CALTRANS STD. PLAN RSP AREA.
 - 27. CONSTRUCT CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STD. PLAN RSP AREA, CASE A.
 - 28. INSTALL 4" PVC INSULATION SLEEVE AT 18" DEPTH OF COVER TO 2' BEHIND BACK OF CURB AT EACH END. (2 LOCATIONS).
 - 29. CONSTRUCT NEW 2" HOT TAP ON EXISTING 8" WATER MAIN AND INSTALL 2" METESED WATER SERVICE WITH WATER BOX PER CITY STD. SET WITH 4" FROM (E) CURB. COORDINATE WITH CITY FOR CONTINUOUS INSPECTION DURING HOT TAP.
 - 30. CONSTRUCT NEW 2" HOT TAP ON EXISTING 8" WATER MAIN AND INSTALL 2" METESED WATER SERVICE WITH WATER BOX PER CITY STD. SET WITH 4" FROM (E) CURB. COORDINATE WITH CITY FOR CONTINUOUS INSPECTION DURING HOT TAP.
 - 31. AS SHOWN ON PLAN, ALL EXISTING CURBS TO BE RECONSTRUCTED TO 12" ABOVE THE EXISTING FACE OF CURB AS INDICATED PER SUBSECTION 1. TRANSITION TO 20" HIGH CURB HEIGHT AT JCT. 12.



BID DOCUMENTS
 DATE: DECEMBER 2019

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES.
 HALF SIZE



PREPARED UNDER THE DIRECTION OF
 M.J. [Signature]
 1/15/2019
 M.S. & U.T. [Signature] REC. 037700 DATE
 DESIGNED BY SWAN BY REVIEWED BY
 WAK/CLC OHS

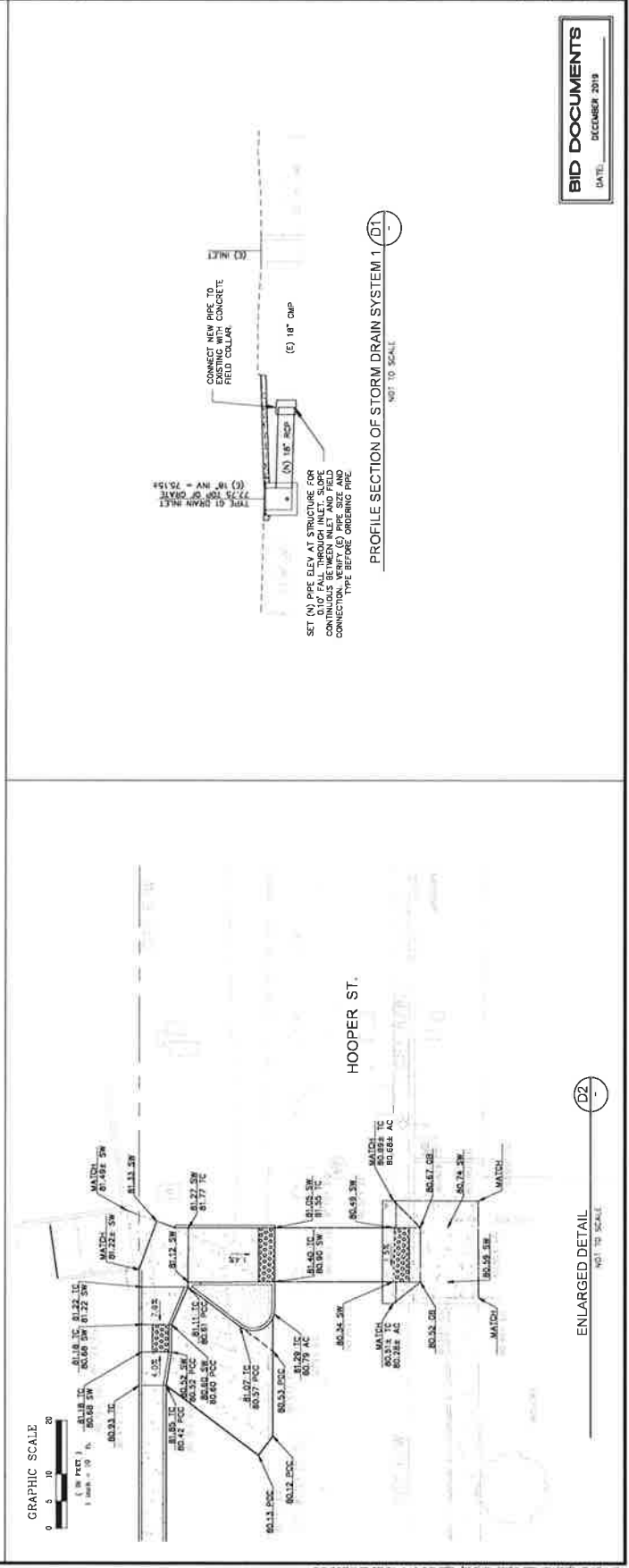
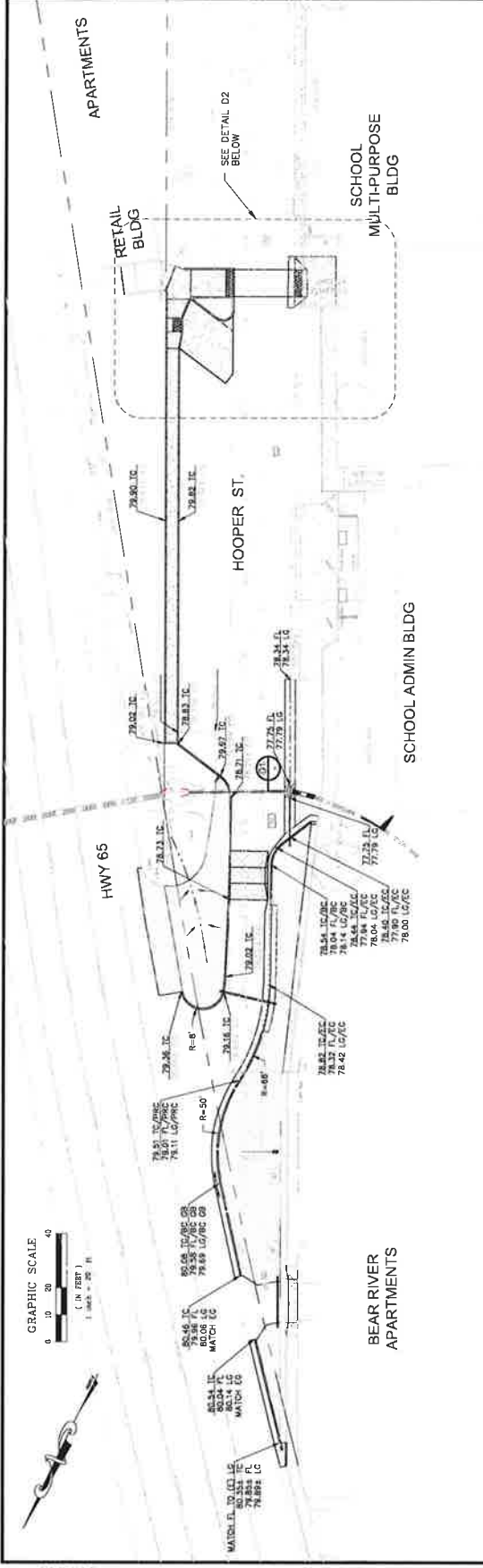
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 Coastland Civil Engineering, Inc.



CITY OF WHEATLAND
 IMPROVEMENT PROJECT
 HOOPER STREET

PROJECT NUMBER:
 77-4027
 DRAWING DATE:
 DECEMBER 2019
 SHEET NUMBER:
 7 of 13

BID DOCUMENTS
 DATE: DECEMBER 2019



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 1/15/2019
 M.S. & U.T. [Signature] REC. 037700 DATE



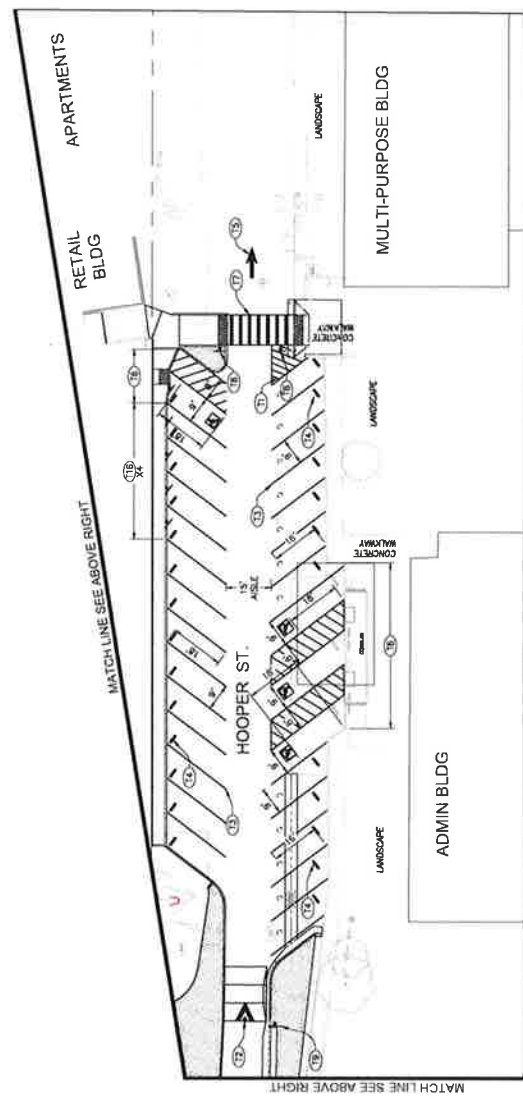
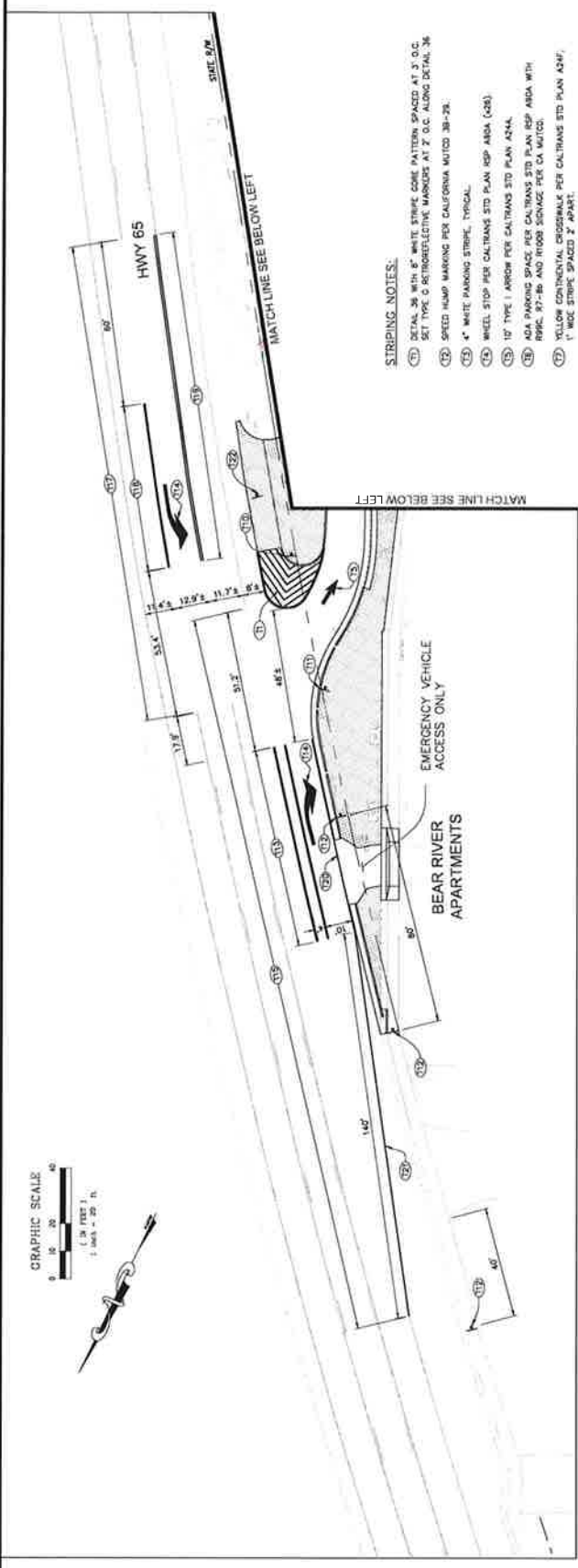
PREPARED UNDER THE DIRECTION OF
 12/19/2019
 KYLE W. BLACK, P.E., C.E. (7700) DATE
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 JAU WK/D.C. DMS

Costland Civil Engineering, Inc.
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 530.869.9929 Fax

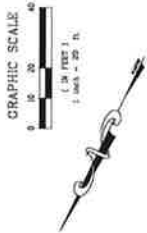


CITY OF WHEATLAND
 IMPROVEMENT PROJECT
 HOOPER STREET
 SIGNING & STRIPING PLAN
 PROJECT NUMBER 77-4027
 DRAWING DATE DECEMBER 2019
 SHEET NUMBER 8 of 13

BID DOCUMENTS
 DATE: DECEMBER 2019



- STRIPING NOTES:**
- 111 DETAIL 36 WITH 8" WHITE STRIKE CORE PATTERN SPACED AT 3' O.C. SET TYPE C RETROREFLECTIVE MARKERS AT 2' O.C. ALONG DETAIL 36
 - 112 SPEED HUMP MARKING PER CALIFORNIA MUTCD 3B-28.
 - 113 4" WHITE PARKING STRIPE, TYPICAL.
 - 114 WHEEL STOP PER CALTRANS STD PLAN RSP AREA (428).
 - 115 10" TYPE II ARROW PER CALTRANS STD PLAN A244.
 - 116 ADA PARKING SPACE PER CALTRANS STD PLAN RSP AREA WITH RAMP, 8'-0" AND HUBS SERVICE PER CA MUTCD.
 - 117 YELLOW CONTINENTAL CROSSWALK PER CALTRANS STD PLAN A34F, 1" WIDE STRIPE SPACED 2' APART.
 - 118 51-1 FLUORESCENT YELLOW GREEN (30"/30"), W8-PP FLUORESCENT YELLOW GREEN (24"/12"), AND W7-1 YELLOW "SPEED HUMP" (24"/24") SIONS
 - 119 W7-1 "SPEED HUMP" SIGN
 - 120 STREET NAME "HOOPER ST" FOR OTI STD DETAIL 51-23
 - 121 W8(CA) "SPEED HUMPS AHEAD" SIGN
 - 122 87-1 "NO PARKING ANYTIME" SIGN PER MUTCD.
 - 123 PLACE 5 SIGNS AT 80' INTERVALS.
 - 124 80' DETAIL 30(C) PER CALTRANS STD PLAN A300.
 - 125 24" TYPE II ARROW PER CALTRANS STD PLAN A246.
 - 126 REMOVE 333' OF EXISTING DETAIL 27B EDGE LINE.
 - 127 MODIFIED R80 (CA) (1-HOUR) SIGN PER CA MUTCD.
 - 128 REMOVE 133' OF TWO-WAY LEFT-TURN (DETAIL 32) MARKERS & MARKERS FOR REPLACEMENT WITH LEFT-TURN POCKET.
 - 129 INSTALL DETAIL 36 (80' L7) PER CALTRANS STD PLAN A300.
 - 130 INSTALL DETAIL 23 (100' L7) PER CALTRANS STD PLAN A300.
 - 131 INSTALL DETAIL 27B EDGE LINE (80' L7) PER CALTRANS STD PLAN A300.
 - 132 INSTALL DETAIL 27B TAPER (140' L7) PER CALTRANS STD PLAN A300.
 - 133 INSTALL ROAD SIGN R2E5(3) (CA) "NO STOPPING ANYTIME" PER MUTCD.

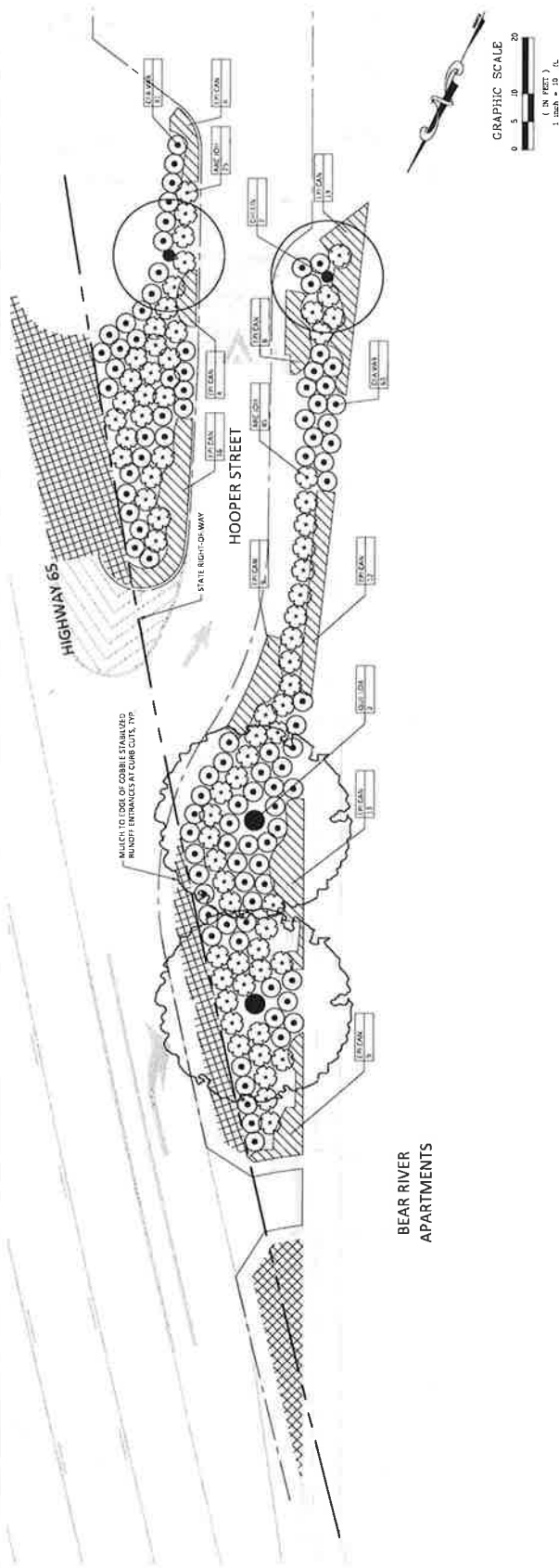


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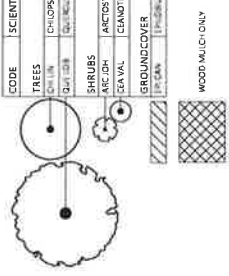
DATE: DECEMBER 2019



PREPARED UNDER THE DIRECTION OF
 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____



PLANTING LEGEND



CODE	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY	WATER USE	REMARKS
TREES						
011 LN	CHLOPS LYCARIS	DESERT WILLOW	15 GALLON	2	LOW	STANDARD
021 G28	QUERCUS GRONATA	VALLEY OAK	15 GALLON	2	10 W	STANDARD
SHRUBS						
010 DR	JACOBINUS JORDANII	JOHN JORDAN MAMMILLA	1 GALLON	10	LOW	
020 WL	GRANDIUS VALLEY VIOLET	VALLEY VIOLET GRANDIUS	1 GALLON	10	10 W	
GROUND COVER						
100 GAN	TRIFOLIUM DALLUM TRIFOLIUM COCCINEUM	TRIFOLIUM CALIFORNIA LUCIDISSIMA	1 GALLON	18	LOW	30" O.C.

WOOD MULCH ONLY

IRRIGATION SCHEDULE

VALVE NUMBER	WATERING INTERVAL DATES PER WEEK/MINUTES PER CYCLE											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AL	1.0 ETg	1.8 ETg	3.2 ETg	4.7 ETg	7.7 ETg	8.4 ETg	7.2 ETg	5.4 ETg	3.7 ETg	1.2 ETg	1.2 ETg	1.2 ETg
AW	1.1	1.9	1.8	2.7	3.4	3.8	4.2	5.2	3.2	2.3	1.2	1.2
AW	1.1	1.9	2.5	2.8	3.5	3.5	2.5	2.0	2.5	1.5	1.5	1.5

- NOTES
1. WATERING INTERVALS ARE BASED ON WEEKLY APPLICATION WITH 100% WATER.
 2. THE IRRIGATION SCHEDULE IS BASED ON THE IRRIGATION SCHEDULE IN THE IRRIGATION SCHEDULE.
 3. DURING THE LANDSCAPE ESTABLISHMENT PERIOD, INCREASE THE OPERATIONAL RUN TIME BY 20%.
 4. IRRIGATION INTERVALS MAY VARY BASED ON WEATHER CONDITIONS. THE IRRIGATION INTERVALS WILL BE ADJUSTED AS NECESSARY TO MAINTAIN THE IRRIGATION SCHEDULE'S MAINTENANCE IN THE LANDSCAPE.
 5. WATERING INTERVALS ARE BASED ON ANNUAL EVAPOTRANSPIRATION OF 54.9 INCHES PER YEAR, IN ACCORDANCE WITH APPROXIMATE OF THE LOCAL WATER EFFICIENT LANDSCAPE GUIDANCE.

PLANTING NOTES

SPECIFICATIONS SET TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING UTILITIES VERIFICATION, PROTECTION AND RESTORATION INFORMATION / REQUIREMENTS FASTENING PLANT MATERIAL, PROTECT ALL EXISTING TREES AND PLANT MATERIAL TO REMAIN CONTRACTOR TO REPAIR. NO ADDITIONAL COST ANY DAMAGES INCURRED AS A RESULT OF THIS CONTRACT TO THE CLIENT REPRESENTATIVE'S SATISFACTION.

SUBSTITUTIONS: WITHIN 30 DAYS OF AWARD OF CONTRACT, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SUBSTITUTIONS. THE ARCHITECT SHALL REVIEW AND APPROVE ALL PLANT MATERIAL SELECTIONS FOR PLANTS THAT ARE UNAVAILABLE. OTHERWISE, THE CONTRACTOR SHALL SUBMIT A LIST OF AVAILABLE PLANTS TO THE ARCHITECT FOR REVIEW AND APPROVAL. ANY CHANGES WILL NOT BE SUBJECT TO APPROVAL OF THE CLIENT REPRESENTATIVE. SUCH CHANGES WILL NOT BE SUBJECT TO APPROVAL OF THE CLIENT REPRESENTATIVE.

IRRIGATION: THE CONTRACTOR SHALL FURNISH THE IRRIGATION SYSTEMS OPERATIONAL AND APPROVED BY THE CLIENT REPRESENTATIVE PRIOR TO PLANTING.

QUANTITIES: THE QUANTITIES SHOWN ON THE PLANT LIST AND LABELS ARE FOR THE LANDSCAPE ARCHITECT'S USE AND ARE NOT TO BE CONSIDERED AS THE CONTRACTOR'S OBLIGATION TO INSTALL. PLANTS SHOWN ON THE PLANT LIST AND LABELS SHALL BE INSTALLED AS SHOWN UNLESS OTHERWISE NOTED.

SOIL PREPARATION: ALL PLANTING AREAS SHALL BE PREPARED AS DESCRIBED. AREAS GREATER THAN 100 SQ. FT. SHALL BE PREPARED WITH A 3 INCH LAYER OF MULCH OR TO THE EDGE OF THE TRUNK. ALL PLANTING AREAS SHALL BE PREPARED WITH A 3 INCH LAYER OF MULCH OR TO THE EDGE OF THE TRUNK.

SOIL TESTING AND AMENDMENT: FOLLOWING FINAL GRADING AND PLACEMENT OF PLANT MATERIAL, THE CONTRACTOR SHALL SUBMIT A SOIL TESTING REPORT TO THE ARCHITECT FOR REVIEW AND APPROVAL. SOIL TESTING LABORATORY FOR TESTING AND ORGANIC FERTILIZER AND COMPOST. SOIL TESTING REPORT SHALL BE SUBMITTED FOR REVIEW BY THE CLIENT REPRESENTATIVE AND APPROVAL IMPLEMENTED PRIOR TO PLANTING.

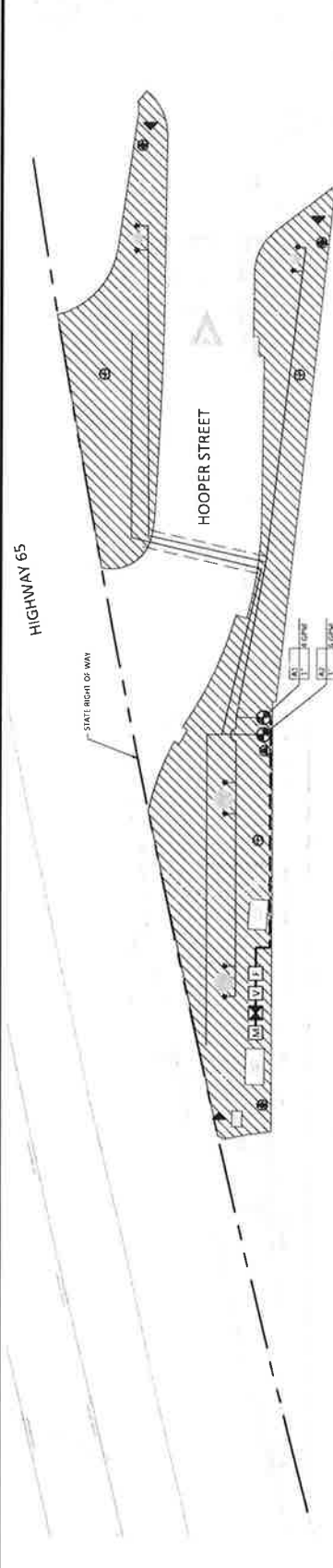
DELIVERY AND STORAGE: THE CONTRACTOR IS RESPONSIBLE FOR WATERING AND PROTECTING ALL PLANTS AND MATERIALS STORED ON SITE. PLANT MATERIAL SHALL BE PLANTED WITHIN 30 DAYS OF DELIVERY TO THE SITE. PLANT MATERIAL SHALL BE STORED IN A SHED OR COVERED AREA AND APPROVED BY THE CLIENT REPRESENTATIVE PRIOR TO PLANTING.

TREES: TREES SHALL NOT BE PLANTED WITHIN 3 FEET OF A WATER MAIN AS MEASURED FROM THE EDGE OF THE TRUNK.

WOOD MULCH: THE CONTRACTOR SHALL INSTALL A 3 INCH LAYER OF MULCH OR TO THE EDGE OF THE TRUNK.

WOOD MULCH AREAS: IDENTIFIED AS WOOD MULCH ONLY.

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES. THE HALF SIZE



ADMINISTRATION BUILDING

BEAR RIVER APARTMENTS

HOOPER STREET

HIGHWAY 65

START RIGHT OF WAY

GRAPHIC SCALE
 0 5 10 20
 FEET
 1" = 10' 0"

IRRIGATION LEGEND

DETAIL SYMBOL	ITEM AND DESCRIPTION
	MAINLINE
	ELECTRICIAN FOR CONTROLLER, SEE ELECTRICAL ENGINEERING PLANS
	PERMANENTLY SET PRESSURE CONTROL VALVE WITH 1/2" BALL VALVE FOR MAINTENANCE. SEE ELECTRICAL ENGINEERING PLANS
	5" DIA. 20" DEEP. 40 GPM. 150 PSI. 15" DIA. 10" DEEP. 100 GPM. 150 PSI. 15" DIA. 10" DEEP. 100 GPM. 150 PSI. 15" DIA. 10" DEEP. 100 GPM. 150 PSI.
	2" DIA. 10" DEEP. 100 GPM. 150 PSI.
	AIR RELIEF VALVE. 1/2" SIZE. HUNTER P40. APPROVED EQUAL.
	DWP SYSTEM INDICATOR. HUNTER ECD. APPROVED EQUAL.
	FLUSH VALVE. 1/2" SIZE. HUNTER P40. APPROVED EQUAL.
	ROOT WATERING BUBBLER. 3/8" DEEP. 1/2" DIA. 10" DEEP. 100 GPM. 150 PSI.
	VALVE. HUNTER P40. APPROVED EQUAL.

IRRIGATION NOTES

SEE CALIFORNIA IRRIGATION SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING UTILITIES, PROTECTION, AND RECORDATION INFORMATION AND REQUIREMENTS.

THE IRRIGATION SYSTEM IS SHOWN GRAPHICALLY FOR GRAPHIC CLARITY. THE SYSTEM DESIGN IS BASED ON 80% AND 20% DERIVABLE AT THE POINT OF USE. THE CONTRACTOR SHALL VERIFY THE DESIGN AND MAKE ANY NECESSARY ADJUSTMENTS PRIOR TO CONSTRUCTION. WHEN THE REPRESENTATIVE IS NOTIFIED BY TELEPHONE AND IN WRITING, THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM THE CLIENT REPRESENTATIVE BEFORE PROCEEDING WITH IRRIGATION SYSTEM INSTALLATION. IN THE EVENT A PRESSURE DISCREPANCY IS NOT REPORTED IN WRITING PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY REVISIONS.

GOALS: INSTALLATION SHALL OCCUR IN ACCORDANCE WITH ALL LOCAL CODES AND MANUFACTURER'S SPECIFICATIONS. NOTIFY THE CLIENT REPRESENTATIVE BY TELEPHONE AND IN WRITING OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

SYSTEM INSTALLATION: INSTALL IRRIGATION SYSTEM AS SHOWN ON PLAN AND CONSTRUCTION DETAILS. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS DIAGRAMMATICALLY SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT DISTRIBUTION, CLEAR DIFFERENCES, OR DIFFICULTIES IN SITE DIVERGENCE EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES.

TESTING: PRIOR TO BACKFILLING BELIEVED THE CONTRACTOR SHALL CHANGE THE MAINLINE AND TEST SYSTEM FOR LEAKS AND REPAIR THE MAINLINE AS NECESSARY. THE CONTRACTOR SHALL ADJUST THE CONTROLLER AND WIRING SYSTEM TO MATCHES ESPECIALLY PRIOR TO BACKFILLING TRENCHES.

BACKFLOW PREVENTER: LOCATE PER PLAN, AND OBTAIN APPROVAL FROM THE CLIENT REPRESENTATIVE PRIOR TO INSTALLATION.

RESPONSIBILITY: THE FINAL LOCATION OF THE AUTOMATIC CONTROLLER SHALL BE DETERMINED BY THE CLIENT REPRESENTATIVE PRIOR TO INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE AUTOMATIC CONTROLLER SERVICE POINT TO THE CLIENT REPRESENTATIVE. SEE OASIS DESIGN FOR ADDITIONAL INFORMATION.

SEWERAGE: CONTRACTOR SHALL ADEQUATELY SIZE ALL SEWERS SHOWN ON PLAN. SEWERS SHALL BE INSTALLED AT THE NECESSARY DEPTHS PRIOR TO PAVEMENT. CONTRACTOR SHALL VERIFY THE DEPTHS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CORRECTING ANY SUCH DIFFERENCES.

SOCKET CONTROL VALVES: 8" PRESSURE REGULATING VALVES TO 20 PSI.

QUICK COUPLING VALVES: PROVIDE CLIENT REPRESENTATIVE WITH ONE OPERATING KEY, TWO SEED LOCATIONS COVER KEYS, AND ONE 40 PSI SWIVEL.

FIELD ADJUSTMENTS: FIELD ADJUSTMENTS ARE NOT ALLOWED. ALL FIELD ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND MUST BE APPROVED BY THE CONTRACTOR. FIELD ADJUSTMENTS MAY BE REQUIRED TO PROVIDE OPTIMUM OPERATING EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CLIENT REPRESENTATIVE OF ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CLIENT REPRESENTATIVE OF ANY SUCH DIFFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CLIENT REPRESENTATIVE OF ANY SUCH DIFFERENCES.

WARNING: PROJECT SHALL BE COMPLIANT WITH MW101.

FOR THE IRRIGATION SCHEDULE, SEE SHEET 10.

WATER USE CALCULATIONS

HYDROLOGIC # AND ZONE	PLANT FACTOR (PF)	IRRIGATION FREQUENCY (IF)	ALLOWED MAX ETAF - 45	ETW/HE/CIQ/S2/ETAF*	ESTIMATED TOTAL WATER USE (ETWU)
REGULAR LANDSCAPE AREAS	0.8	2.0	12.0	1.212	43.026
AT LOW WATER USE (LANDSCAPE)	0.8	2.0	12.0	1.212	43.026
LANDSCAPE AREAS (ETAF PF/IF)					
ETAF X AREA					44.000
LANDSCAPE AREAS					44.000
TOTALS					44.000

ETAF CALCULATIONS

REGULAR LANDSCAPE AREAS	TOTAL AREA	AVERAGE ETAF	APPROXIMATE TOTAL WATER USE (ETWU)
	1.212	37	44.000
TOTAL LANDSCAPE AREAS	N/A		

I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE DRAINAGE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

MEREDITH BRAUNSTAD, P.L.A., CA LICENSE #5122
 HELIX ENVIRONMENTAL PLANNING

BID DOCUMENTS
 DATE: NOVEMBER 2019



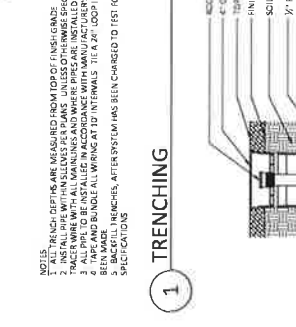
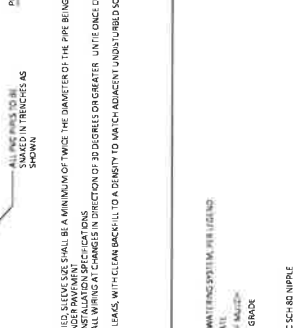
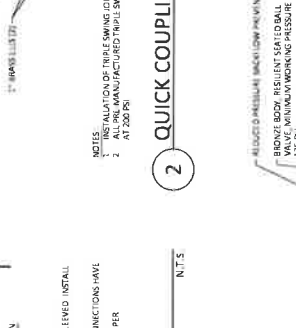
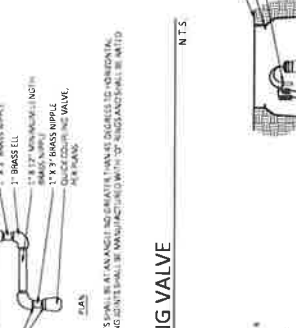
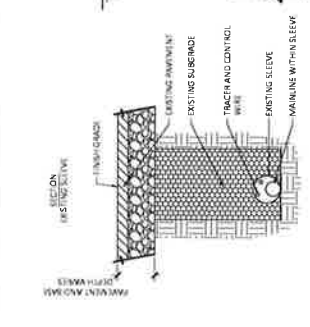
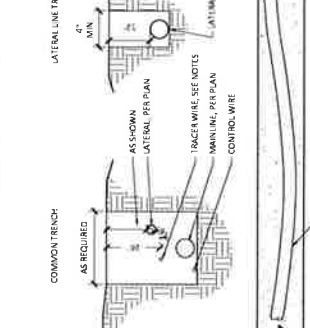
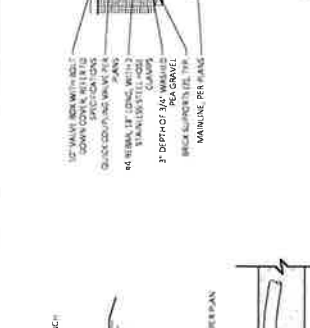
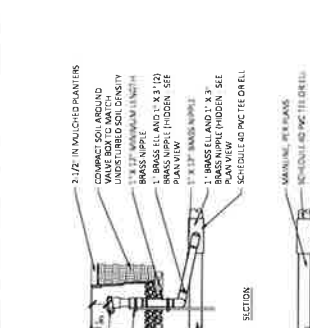
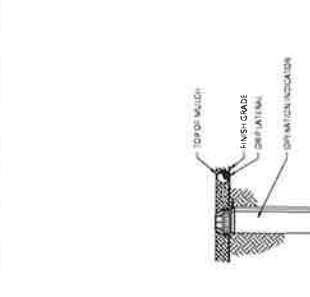
DATE	NOV 2019
PROJECT NAME	HOOPER STREET IMPROVEMENT PROJECT
CLIENT	CITY OF WESTLAND
SCALE	AS SHOWN
DESIGNED BY	DATE
CHECKED BY	DATE

PREPARED UNDER THE DIRECTION OF
 ENGINEER OF RECORD
 HELIX ENVIRONMENTAL PLANNING
 10101 WILSON AVENUE, SUITE 200
 WESTLAND, CALIFORNIA 94393
 (925) 938-1100

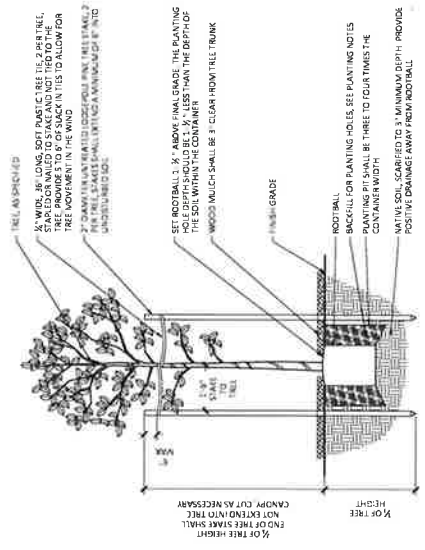
STATE OF CALIFORNIA
 HOOPER STREET IMPROVEMENT PROJECT
 CITY OF WESTLAND
 SHEET NUMBER
 12 OF 13
 PROJECT NUMBER
 77-4027
 NOVEMBER 2019

NOVEMBER 2019
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 12 OF 13
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DETAILS

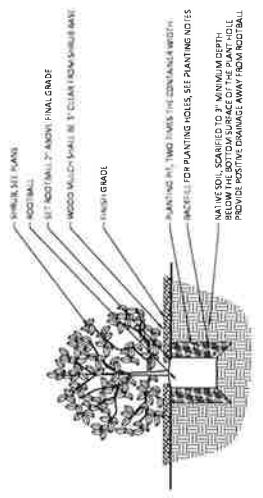


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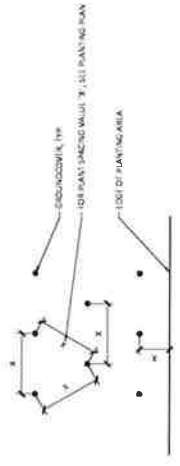
1 TREE SECTION
 N.T.S.

NOTES:
 1. TRIM THE SMALL BRANCHES ON THE TREE. BRANCHES MUST BE BRANCHED IN DIAMETER, DO NOT TOP THE TREE.
 2. BRANCHES MUST BE BRANCHED IN DIAMETER, DO NOT TOP THE TREE.
 3. WATER TO SATURATE WHOLE AND PLANTED.



2 GROUND COVER SECTION
 N.T.S.

NOTES:
 1. REMOVE ALL NURSERY STAKES AND TIES.
 2. WATER TO SATURATION WHEN TREE PLANTED.



3 GROUND COVER SPACING PLAN
 N.T.S.